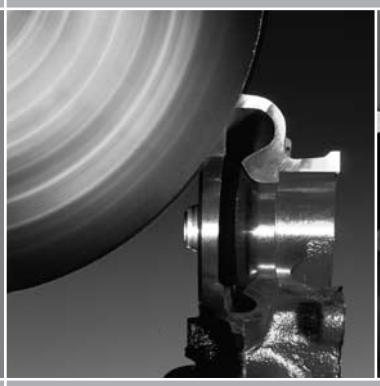

BUEHLER

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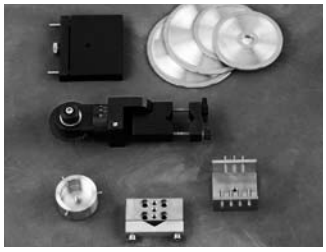
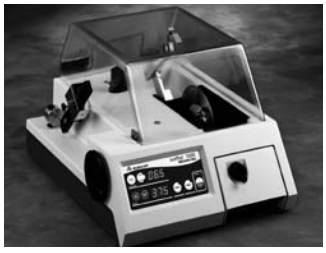
1. Low Speed Saw and Precision Cutters

IsoMet 11-1280-250
Low speed saw, 0-300 rpm
35 mm cutting capacity, gravity feed weight system
complete with 4 chucks (11-1184 to 11-1187)
one set of flanges (1180-S48)
one diamond cutting wheel (11-4244)
ready for use; including manual

Flanges for IsoMet
Set of flanges (2 pieces) with Ø 44 mm (1 ¾") to be used with 11-1181 11-1191
Set of flanges (2 pieces) with Ø 35mm (1 3/8")
to be used with 11-1188 and 11-1189 holders and for larger cutting depth. 11-1192



Accessories for IsoMet
Device for angular cutting suited for all IsoMet holders, please use flange set 11-1191 11-1181
Blade Wiper 11-1182
Double saddle chuck 11-1183
Chuck for rod and tubes to 3/8" (10 mm) 11-1184
Chuck for irregular-shaped samples 11-1185
Chuck for thin sheets, single crystals and thin-sections 11-1186
Vice clamping holder for long samples 11-1187
Vacuum holder for petrographic and ceramographic thin-sections, flange 11-1192 must be used 11-1188
Chuck for mounted samples of Ø 1" (25.4 mm) or Ø 1 ¼" (31.8 mm), flange 11-1192 must be used 11-1189
Chuck for bones and other irregular material (max. 55 x 38 mm) 11-1194
Guide plate 11-1195
Holder for dressing stick 11-1196
Dressing block spacer kit 11-1198
Transparent splash guard 11-1199
Goniometer holder for precise cutting to a prescribed angle and to defined depths 11-2381

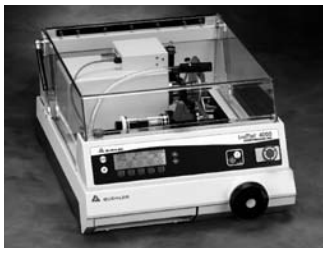


IsoMet 1000 11-2180
Precision cutter with variable speed 100-975 rpm
cutting capacity 50 mm Ø, weight load system, f eed in x-direction: 25 mm
complete with 4 chucks (11-1184 to 11-1187)
one set of flanges (11-2282)
one diamond cutting wheel 15LC Ø152mm (11-4276)
ready for use, including manual

Flanges for IsoMet 1000
Flange set (2 pieces) of 1 ¾" (44 mm) diameter for larger samples and larger cutting depth 11-1191
Flange set (2 pieces) 35 mm Ø to be used together with 11-1188 and 11-1189 11-1192
Flange set (2 pieces) 63.5 mm (2.5") 11-1197
Flange set (2 pieces) Ø 3" (75 mm) for cutting blades of minimum 4" (100 mm Ø) 11-2282
Flange set (2 pieces) of Ø 4" (102 mm) for cutting blades of minimum 5" (125 mm Ø) and high rpm 11-2283
Flange set (2 pieces) of Ø 5" (125 mm Ø) for cutting blades of minimum 6" (150 mm Ø) and high rpm 11-2284

Accessories for IsoMet 1000
Double saddle chuck 11-1183
Chuck for rod and tubes up to Ø 3/8" (10 mm) 11-1184
Chuck for irregular-shaped samples 11-1185
Chuck for thin sheets, single crystals and thin-sections 11-1186
Chuck for long samples 11-1187
Vacuum holder for petrographic and ceramographic thin-sections 11-1188
Chuck for mounted samples of Ø 1" (25.4 mm) or Ø 1 ¼" (31.8 mm) flange 11-1192 must be used 11-1189
Rotating vise (5 rpm), collet Ø 2" (50.8 mm) 11-2181
Cutting table 11-2182
Set of extra weights to 800 g 11-2183
Swivel mount arm attachment 11-2184
IsoMet 1000 Goniometer for precise cutting to a prescribed angle and to defined levels 11-2185
Splash guard for cutting table 11-2182 11-2186
Chuck for rotating vise 1" (25 mm) 11-2191
Chuck for rotating vise 1¼" (32 mm) 11-2192
Chuck for rotating vise 1½" (40 mm) 11-2193
Chuck for rotating vise, universal 11-2195
Single saddle chuck, large 11-2285
Chuck for clamping screws, rods and tubes to be cut longitudinally-length of 29-54 mm 11-2482
Double saddle chuck, same as 11-1183 but with capacity to Ø 45 mm 11-2483
Thin section holder for 27 x 46 mm slides 11-2484
Thin section holder for 51 mm x 76 mm (2"x3") slides 11-2488
Chuck for mounted samples of 38-40 mm 11-2489

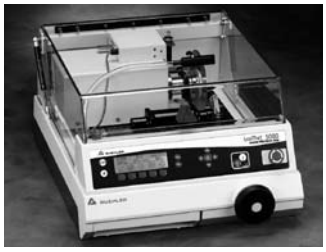
1. Precision Cutters (continued)



IsoMet 4000 11-2680
Precision cutter with blade feed system, linear cut
the blade moves through the sample, cutting length: 150 mm
Variable speed from 200 to 5000 rpm, constant feed rate
Cutting capacity up to Ø 50 mm, microprocessor controlled
Cutting table with 10 mm T-slots
Complete with 3 chucks (11-2683, 11-2684, 11-2686), micropositioning system (11-2699)
Automatic dressing system (11-2696), 1 set of flanges (11-2689)
1 piece IsoCut blade Ø178 mm (11-4267), ready for use; including manual

IsoMet 4000 incl. ERS 11-2675
Same specifications as above, but with external recirculating system 11-2711

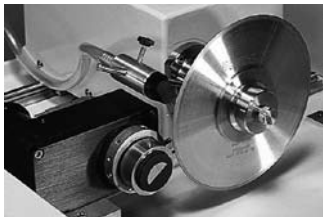
IsoMet 4000 11-2681
*Same specifications as above, but without accessories**



IsoMet 5000 11-2780
Same specification as Isomet 4000, except:
Programmable, motorized sample feed with 2µm setting accuracy
Grinding with cupped grinding wheels
Complete with 3 chucks (11-2683, 11-2684, 11-2686)
Motorized micropositioning system, automatic dressing system (11-2696)
1 set of flanges (11-2689), 1 piece IsoCut blade Ø178 mm (11-4267), ready for use; including manual

IsoMet 5000 incl. ERS 11-2775
Same specification as above, but with external recirculating system 11-2711

IsoMet 5000 11-2781
*Same specification as above, incl. motorized micropostioning system, without accessories**
** Accessories such as flanges, clamping devices etc. must be specified and ordered separately.*

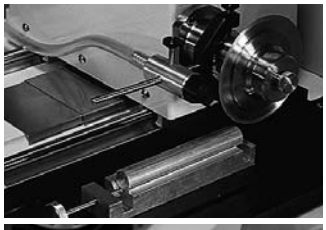


Accessories for IsoMet 4000 and IsoMet 5000
Stainless steel precision flanges Ø 52 mm (2") 2 pieces 11-2678
Stainless steel precision flanges Ø 63.5 mm (2.5") 2 pieces 11-2679
Stainless steel precision flanges Ø 76 mm (3") 2 pieces 11-2688
Stainless steel precision flanges Ø 102 mm (4") 2 pieces 11-2689
Stainless steel precision flanges Ø 127 mm (5") 2 pieces 11-2690
Stainless steel precision flanges Ø 153 mm (6") 2 pieces 11-2697

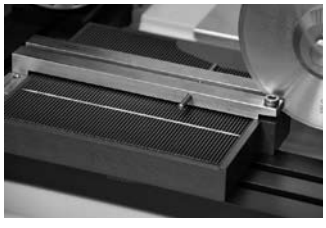
When working with high blade-speed, flanges made of stainless steel support the smoother running of the blade. As an alternative, aluminium flanges for IsoMet 1000 can be used.

Stainless Steel chucks
Double Saddle Chuck, for bar and tube stock up to 1¼" (32mm) diameter 11-2682
Single Saddle Chuck for bar and tubes up to Ø 32 mm (1¼") 11-2683
Chuck for mounted samples of Ø 25-32 mm (1" up to 1¼") 11-2684
Chuck for mounted samples of Ø 40 mm (1½") 11-2685
Chuck with 7 screws for irregular-shaped samples 11-2686
Chuck for clamping screws, rods and tubes to be cut longitudinally-length of 29 to 54 mm long 11-2687

Accessories for longer samples
General usage vise Ø 50 mm, back side height 45 mm 11-2691
General usage vise Ø 150 mm, back side height 45 mm 11-2703
Slotting vise for cutting slots in samples (100 x 38 mm, LxØ) 11-2692
Precision goniometer with 3-axis control in 5 degree increments 11-2693
Precision table for sectioning thin materials and wafers 11-2694-250
incl. vacuum pump (flanges 11-2678 or 11-2679 recommended)
Rotating vise 11-2695
Automatic dressing system 11-2696
Angle vise for cutting samples on angle 0-90°, 2° increments, length 50 mm 11-2698
1µm sample positioning system 11-2699
Holder for thermal-spray coated samples 11-2704
Manual dressing vise 11-2705
Clamping device for solar cells and other delicate flat parts 11-2706



Accessories and spare parts
External recirculating system (27 L) for IsoMet 4000 and IsoMet 5000 11-2711
T-slot bed kit (Y-axis) with fasteners 11-2701
T-slot bed kit (X-axis) with fasteners 11-2702

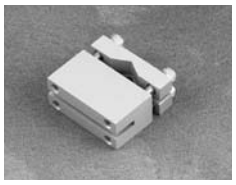


Other accessories and clamping devices
Holder for irregular-shaped samples 11-2485
Holder to glue-mount wafers, single crystals and thin sections (max. 44 x 64 mm) 11-2486
Single vice holder for clamping round samples to 30 mm Ø 11-2487
Quick clamping device with dove tail guide for clamping samples to 1 ¼" (32 mm) 11-2491
Quick clamping device with dove tail guide for clamping samples to Ø 40 mm (1½") 11-2492
Chuck for bones and implants 11-2494

Speed vise, small, clamping height up to 58 mm (needs 10mm T-slot stones) 46 00 22
Speed clamp vise (left) for all models 47 00 42

Clamping Devices and Accessories for the IsoMet-Series

11-1181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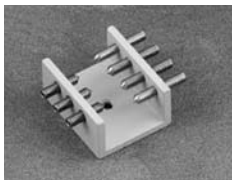
11-1184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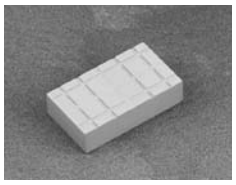

11-1186

11-1187

11-1188

11-1189

11-1194

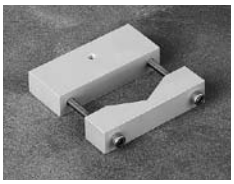
11-2181

11-2185

11-2186

11-2192

11-2195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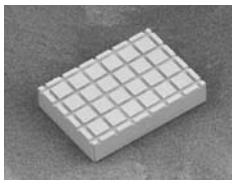
11-2381

11-2482

11-2483

11-2484

11-2485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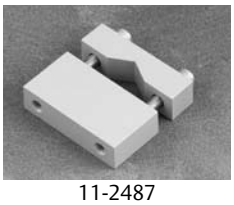
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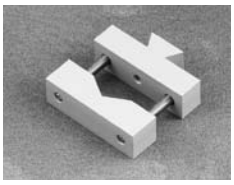
11-2489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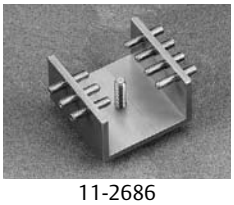
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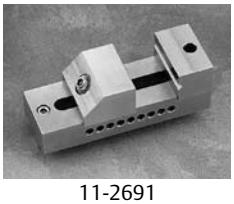
11-2691

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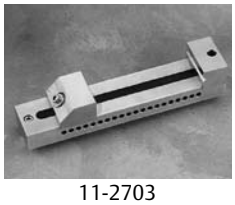
11-2699

11-2700

11-2702

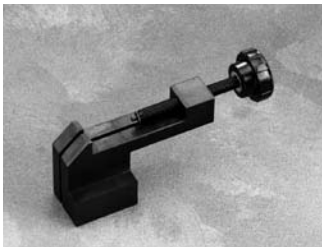

11-2703

11-2704

47 00 42

2. Abrasive Cutters

2.1. Cutters with manual chop cut



The Delta AbrasiMet abrasive cutter Is a manually operated bench top cutter used for a wide variety of materials and laboratory applications. It provides the operator the ability to manually control the cutting operation, producing burn free cuts up to Ø 95 mm quickly and consistently.

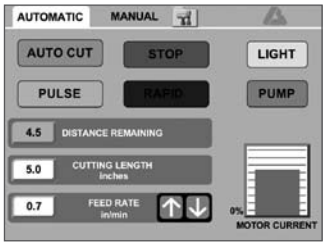
Delta AbrasiMet 10-2155-400
Bench top cutter, 3 kW, 380 V/50 Hz/3-phase, chop cutting action
Cut-off wheel: Ø 250 mm/ 10", cutting capacity: Ø 95 mm
Mechanical brake
Cutting table with 12mm T-slots
Without cooling system and accessories

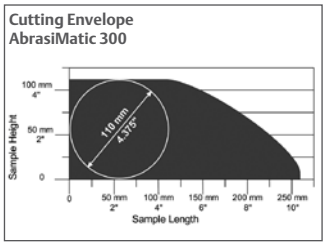
Accessories, other clampings vises and spare parts
Base cabinet (steel) for Delta AbrasiMet, dimensions 920 x 740 x 900 mm (WxDxH) 55 00 20
Recirculating system with filter, 60 L, dimensions 600 x 400 x 325 mm (WxDxH) 56 00 23
Recirculating system, 27 L including pump, without trolley..... 10-2165-400
Trolley for recirculating system 10-2165-400 16-1497

Sliding Vise, left hand..... 10-2170
Sliding Vise, right hand 10-2171
Speed Vise kit, small (consisting of 2 x 46 00 22 + 2 x 46 00 27 + 2 x 46 00 23) with 12 mm T-slot stones.....95-C1823D
MetKlamp Quick clamping device, left, opens 80 mm, 12 mm T-slot stones..... 95-C1821
MetKlamp Quick clamping device, right, opens 80 mm, 12 mm T-slot stones..... 95-C1822
Fastener Vise for gripping fasteners or other small parts, 12 mm T-slot stones 95-C1702

Speed clamp vise (left) for all models..... 47 00 42
Speed clamp vise (right) for all models 47 00 43
130 mm clamping capacity, for cylindric material <70mm due to the height of the jaw
clamping jaw 75 x 36 mm, dimensions: 250 x 75 x 60mm (WxDxH)

2.2. Cutters with linear moving bed cut





AbrasiMatic 300 10-2190-400
Manual and automatic bench-top cutter
X-Y axis cutting capability
3.7 kW, 380 V/50 Hz/3-phase, 2600 rpm
Touch-screen controls, 7" monitor, 320x240 pixels
Cutting table 365 x 254 mm (WxD) with 12 mm T-slots
Travel movement: Z-axis (up/down) 150 mm, Y-axis (back/forth): 260 mm
Cut-off wheels: Ø 305 mm, cutting capacity: Ø 110 mm
without recirculation unit, clamping devices and cabinet
Dimensions: 834 x 685 x 1040 mm (WxDxH, hood open)

AbrasiMatic 300 with X-axis direction 10-2193-400
same specification as above but with triple X-Y-Z axis cutting capability
Travel movement: X-axis (left/right) 70 mm

Accessories
Base cabinet (steel), dimensions 850 x 860 x 850 mm (WxDxH)..... 10-2406

Recirculating system, 110 L, on movable cart 10-2332-400
Recirculating system with sloped filter, 160 L 10-2430-400

X-Bed retrofit kit 10-2195

Speed Vise kit, small (consisting of 2 x 46 00 22 + 2 x 46 00 27 + 2 x 46 00 23) with 12 mm T-slot stones.....95-C1823D
Sliding Vise, left hand..... 10-2170
Sliding Vise, right hand 10-2171
MetKlamp Quick clamping device, left, opens 80 mm, 12 mm T-slot stones..... 95-C1821
MetKlamp Quick clamping device, right, opens 80 mm, 12 mm T-slot stones..... 95-C1822

Speed clamp vise (left) for all models..... 47 00 42
Speed clamp vise (right) for all models 47 00 43
130 mm clamping capacity, for cylindric material <70mm due to the height of the jaw
clamping jaw 75 x 36 mm, dimensions: 250 x 75 x 60mm (WxDxH)

2.3. Cutters with linear moving bed cut

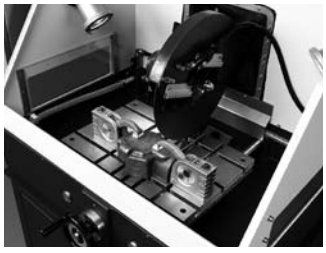
The PowerMet 3000 and PowerMet 6000 abrasive cutters are robust cutters used for laboratory and production applications. The machines use a moving bed arrangement, with the movement of the cutting table achieved manually by rotating the handle. Optionally, automatic motion of the table can be installed. The vertical position of the cutting arm is motorized and set from the control panel, a feature which allows optimal usage of the cutting wheel. The position of the cutting wheel can be adjusted in the x (left-right) axis for cutting in series or parallel cutting. The motor is mounted behind the cutting chamber, thus allowing greater room for positioning of large pieces.

PowerMet 3000 10-2400-400
Bench top model with moveable cutting table
5.5 kW, 380 V/50 Hz/3-phase, 1400 rpm
Moveable cutting table 450 x 310 mm (WxD) with 12 mm T-slots, feed length 220 mm
Manual movement of the x-axis: 120 mm
Motor feed of the cut-off wheel (Z-axis)
Cut-off wheels: Ø 356 mm, cutting capacity: Ø 105 mm (Ø 120 mm/30 mm)
without recirculation unit, clamping devices and cabinet
Dimensions: 1360 x 900 x 1010 mm (WxDxH, hood open)

Base cabinet (steel) for PowerMet 3000, dimensions 850 x 860 x 850 mm (WxDxH) 10-2406

Recirculating system for PowerMet x000, 90 L, dimensions 600 x 400 x 425 mm (WxDxH) 10-2420-400
Stainless steel body for PowerMet 3000 10-2401
Automatic feed device* for y-axis, pulsing cutting action, controllable cut-off end limit-switches 10-2411

** Feed speed 12 mm/min up to 120 mm/min*



PowerMet 6000 10-2600-400
Bench top model with moveable cutting table
11 kW, 380 V/50 Hz/3-phase, 1800 rpm
Moveable cutting table 600 x 340 mm (WxD) with 12 mm T-slots, feed length 250 mm
Manual movement of the x-axis: 165 mm
Motor feed of the cut-off wheel (Z-axis)
Cut-off wheels: Ø 455 mm, cutting capacity: Ø 150 mm (Ø 165 mm/40 mm)
without recirculation unit, clamping devices and cabinet
Dimensions: 1530 x 1160 x 1750 mm (WxDxH, hood open)

Base cabinet (steel) for PowerMet 6000, dimensions 1200 x 1000 x 800 mm (WxDxH) 10-2606

Recirculating system with sloped filter for PowerMet x000, 160 L 10-2430-400
Automatic feed device* for y-axis, pulsing cutting action, controllable cut-off end limit-switches 10-2611

** Feed speed 12 mm/min up to 120 mm/min*

Clamping devices for PowerMet 6000, PowerMet 3000 and other abrasive cutters (12 mm T-slots)
Quick clamping device of aluminium, clamping capacity 100 mm 46 00 10
Prism supports, 2 pieces of aluminium, height 35 mm for 46 00 10 ..... 46 00 11
Prism supports, 2 pieces of aluminium, height 45 mm for 46 00 10 ..... 46 00 14
Prism supports, 2 pieces of aluminium, height 72 mm for 46 00 10 ..... 46 00 15
Speed vise, small, clamping height to 50 mm 46 00 22
Height extension for small speed vise to raise height by approx. 60 mm 46 00 26
Large Speed vise, clamping height to 92 mm 46 00 21
Height extension for large speed vise to raise height by approx. 74 mm 46 00 25
Extender arm for 46 00 22 and 46 00 21, extension 90 mm 46 00 27
Set of 4 support shoes for 46 00 22 and 46 00 21 ..... 46 00 23
Sliding Vise for PowerMet 3000, left, 12 mm T-slot stones 10-2470
Sliding Vise for PowerMet 3000, right, 12 mm T-slot stones 10-2471

NOTE: The cutters are delivered without clamping devices. Suitable clamping devices must be specified separately according to your application.

2.4. Delta Abrasive Cutters with orbital technology

Abrasive chop cutters using Orbital Technology. Orbital cutting technology offers advantages in comparison to the traditional chop cut in that the contact area between abrasive wheel and the sample is kept as small as possible (MACC = Minimal Area of Contact Cutting). This is achieved by the eccentric rotation of the wheel. Thus the wheel continuously changes its position and has only a small point of contact with the sample. With the orbital cutting technology you receive fast and deformation-free cuts, and can cut large samples and/or samples which are difficult to cut with the normal chop cut. Another advantage with orbital cutting technology is the cooling agent can flow directly into the cutting area, increasing the cooling efficiency and preventing unwanted overheating.

Delta 2319 10-2319-400
11 kW (15 HP) 380 V/50 Hz/3-phase, 32A, 1900 rpm
Cutting table with 3 T-slot beds 10-2326, 14mm T-slots
Cutting table dimensions: 600 x 435 mm (WxD)
complete with two-door cabinet
without recirculating system
Cut-Off wheels: Ø 460 mm / 18", cutting capacity: Ø 170 mm

Delta 2319B 10-2319B-400
Same specification as Delta 2319, but with electronic brake

Delta 2318 10-2318-400
7.5 kW (10 HP) 380 V/50 Hz/3-phase, 32A, 1900 rpm
Cutting table with 3 T-slot beds 10-2326, 14mm T-slots
Cutting table dimensions: 600 x 435 mm (WxD)
complete with two-door cabinet
without recirculating system
Cut-off wheels: Ø 406 mm / 16", cutting capacity: Ø 152 mm

Delta 2318B 10-2318B-400
Same specification as Delta 2318, but with electronic brake

Delta 2317 10-2317-400
Specification same as Delta 2318 with *5.5 kW (7.5 HP) Motor*

Delta 2317B 10-2317B-400
Specification same as Delta 2317, but with electronic brake

Delta 2219 10-2219-400
5.5 kW (7.5 HP) 380 V/50 Hz/3-phase, 32A, 2600 rpm
Cutting table with 2 T-slot beds 10-2226, 14mm T-slots
Cutting table dimensions: 400 x 320 mm (WxD)
complete with shipping frame, cabinet optional
without recirculating system
Cut-Off wheels: Ø 356 mm / 14", cutting capacity: Ø 132 mm

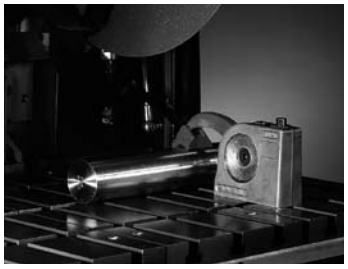
Delta 2219B 10-2219B-400
Same specification as Delta 2219, but with electronic brake

Delta 2218 10-2218-400
5.5 kW (7.5 HP) 380 V/50 Hz/3-phase, 32A, 2600 rpm
Cutting table with 2 T-slot beds 10-2226, 14mm T-slots
Cutting table dimensions: 400 x 320 mm (WxD)
complete with shipping frame, cabinet optional
without recirculating system
Cut-Off wheels: Ø 305 mm / 12", cutting capacity: Ø 114 mm

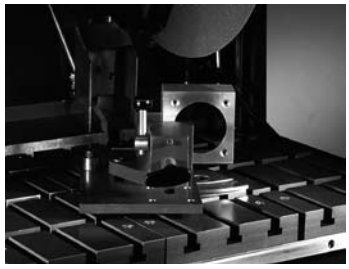
Delta 2218B 10-2218B-400
Same specification as Delta 2218, but with electronic brake

NOTE: The cutters are delivered without clamping devices. Suitable clamping devices must be specified separately according to your application. All Delta models can also be delivered with electronic brake.
Please contact your dealer for more information.

Delta Cutter with MetKlamp vises



Delta Cutter with speed vise



Delta Cutter with angle cutting attachment

2.5. Delta Abrasive Cutter with automatic chop cut

All Delta Cutters of the A-series are equipped with automatic feed. The SMARTCUT System automatically adjusts the feed rate of the motor and prevents damage to the sample or the equipment. The result is outstanding cutting results for a wide-variety of materials and applications, independent of the operator or of the selected parameters.

Delta 2315 AutoChop..... 10-2315-400
7.5 kW (10 HP) 380 V/50 Hz/3-phase, 32A, 1900 rpm
Cutting table with 3 T-slot beds 10-2326, 14mm T-slots
Cutting table dimensions: 600 x 435 mm (WxD)
complete with two-door cabinet
without recirculating system
Cut-Off wheels: Ø 400 mm / 16", cutting capacity: Ø 152 mm

Delta 2315B AutoChop..... 10-2315B-400
Same specification as Delta 2315 AutoChop, but with electronic brake

Delta 2314 AutoChop..... 10-2314-400
Specification same as Delta 2315 AutoChop with 5.5 kW (7.5 HP) Motor

Delta 2314B AutoChop..... 10-2314B-400
Same specification as Delta 2314 AutoChop, but with electronic brake

Delta 2216 AutoChop..... 10-2216-400
5.5 kW (7.5 HP) 380 V/50 Hz/3-phase, 32A, 2600 rpm
Cutting table with 2 T-slot beds 10-2226, 14mm T-slots
Cutting table dimensions: 400 x 320 mm (WxD)
complete with shipping frame, cabinet optional
without recirculating system
Cut-Off wheels: Ø 356 mm / 14", cutting capacity: Ø 132 mm

Delta 2216B AutoChop..... 10-2216B-400
Same specification as Delta 2216 AutoChop, but with electronic brake

Delta 2215 AutoChop..... 10-2215-400
5.5 kW (7.5 HP) 380 V/50 Hz/3-phase, 32A, 2600 rpm
Cutting table with 2 T-slot beds 10-2226, 14mm T-slots
Cutting table dimensions: 400 x 320 mm (WxD)
complete with shipping frame, cabinet optional
without recirculating system
Cut-Off wheels: Ø 305 mm / 12", cutting capacity: Ø 114 mm

Delta 2215B AutoChop..... 10-2215B-400
Same specification as Delta 2215 AutoChop, but with electronic brake

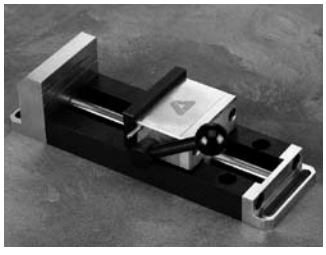
2.6. Delta Manual Abrasive Cutter with manual chop cut

The Delta Manual Abrasive Cutter is a rugged abrasive cutter that increases productivity using a powerful motor and easy-to-use control panel. This cutter was engineered to produce excellent cuts quickly and consistently.

Delta 2213 M 10-2213EB-400
7.5 kW (10 HP) 380 V/50 Hz/3-phase, 16A, 2000 rpm
Cutting table with 14mm T-slots
Cutting table dimensions: 400 x 870 mm (WxD)
complete with one-door cabinet
including recirculating system
Cut-Off wheels: Ø 356 mm / 14", cutting capacity: Ø 125 mm

NOTE: The cutters are delivered without clamping devices. Suitable clamping devices must be specified separately according to your application. All Delta models can also be delivered with electronic brake. Please contact your dealer for more information.

2.7. Accessories for Delta Cutter and other Abrasive Cutters



Accessories and spare parts

Steel base cabinet with 1 door for Delta 22xx 10-2228
Steel base cabinet with 2 doors for Delta 22xx 10-2230
Large Recirculating cooling system for Delta 23xx, 160 Litre 56 00 24
Recirculating cooling system for all Delta Models, 80 Litre 10-2332-400
Filter conveyor for all Delta Cutters, 250 Litre 10-2333-400
Delta Fume extractor 10-2342-400
Smoke filter kit for fume extractor 10-2342-400 10-2342-030
Fume filter kit for fume extractor 10-2342-400 10-2342-031
Vent Kit (Wall) for fume extractor 10-2342-400 10-2342-032
Activated charcoal filter for fume extractor 10-2342-400 10-3350-001

Serial cutting table (Delta 23xx), 100 mm movement* 10-2341
Serial cutting table (Delta 22xx), 75 mm movement* 10-2241
**Reduces the radial cutting capacity by 18 mm*

T-slot bed with 3 T-slots in x-direction (for Delta 23xx), 200 x 435 mm (WxD) 10-2325
T-slot bed with 3 T-slots in x- and y-directions (for Delta 23xx), 200 x 435 mm (WxD) 10-2326

T-slot bed with 3 T-slots in x-direction (for Delta 22xx), 200 x 320 mm (WxD) 10-2225
T-slot bed with 3 T-slots in x- and y-directions (for Delta 22xx) , 200 x 320 mm (WxD) 10-2226

Clamping vises for Delta and other abrasive cutters (with 14 mm T-slots)

MetKlamp quick clamp sliding device (for Delta 23xx and 22xx, 14 mm T-slot) left 10-3529
MetKlamp quick clamp sliding device (for Delta 23xx and 22xx, 14 mm T-slot), right 10-3530

MetKlamp VII quick clamping device, clamping capacity up to 85 mm, left, for 23xx 10-2245
MetKlamp VII quick clamping device, clamping capacity up to 85 mm, right, for 23xx 10-2246
Angle cutting attachment for Delta 23xx 10-3515
Speed Vise kit, large (consisting of 2 x 460021 + 2 x 460027 + 2 x 460023) with 14 mm T-slot stones 10-3523D
Height extender for Speed Vise kit large, raising to 74 mm (2 x 460025) 10-3528
Speed Vise kit, small (consisting of 2 x 46 00 22 + 2 x 46 00 27 + 2 x 46 00 23) with 14 mm T-slot stones .. 10-3531D
Height extender for Speed Vise kit small, raising to 60 mm (2 x 46 00 26) 10-3532
Vee-Clamp block, adjustable, 1 pair 10-3525
Horizontal clamp for Speed Vise Kit, large 10-3526
V-Nut extender block kit, 1 pair 10-3527

Hydraulic Vise for Delta 23xx, 2 clamping elements with individual gripping jaws
incl. hydraulic mechanism, power-supply for mechanism comes from Delta-Cutter 46 00 50
T-slot bed, brass, for Delta 23xx (2 beds with longitudinal and cross slots) 46 00 51

** Above listed clamping vises come with 14 mm T-slot stones.*
If other they are ordered for cutters with different T-slot bed, please specify.

Clamping vises for abrasive cutters*

Dual compact tension vise, with special screws, for cutting turbine blades. 46 00 28
Speed Vise, small, clamping height up to 58 mm 46 00 22
Height extender for Speed Vise, small, raising to approx. 60 mm 46 00 26
Large Speed Vise, clamping height to 102 mm 46 00 21
Height extension for Speed Vise, large, raising to approx. 74 mm 46 00 25
Extender arm for 46 00 22 and 46 00 21, extension 90 mm 46 00 27
Set of 4 support shoes for 46 00 22 and 46 00 21 ..... 46 00 23
Support shoe no. 1 (accessory, delivered with 460021 and 460022) 460021-A

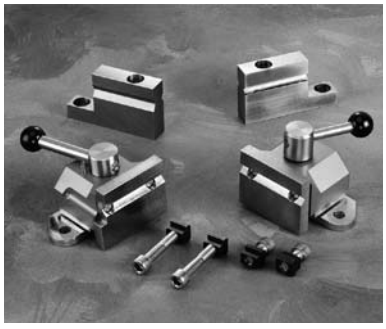
Chain-Clamp for clamping of contours, round or irregular shaped parts
including: Speed Vise, 1 m chain, hooking-block for chain 460030

Speed clamp vise (left) for all models 47 00 42
Speed clamp vise (right) for all models 47 00 43
130 mm clamping capacity, for cylindric material <70mm due to the height of the jaw
clamping jaw 75 x 36 mm, dimensions: 250 x 75 x 60mm (WxDxH)

** Above listed clamping vises come with 12 and 14 mm T-slot stones.*
Other accessories and clamping vises on request.

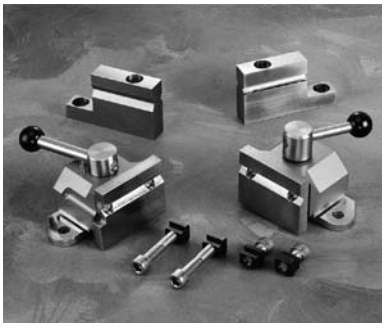
Delta Cutter: serial cutting table

Clamping Vises for Abrasive Cutters



10-2170 und 10-2171
Sliding vise, left and right
for Delta AbrasiMet and AbrasiMet

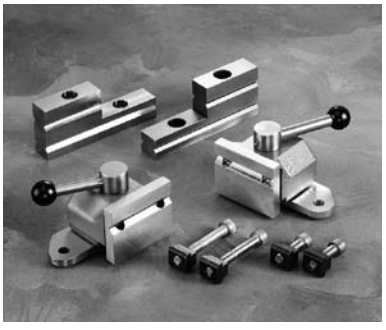
10-2245 and 10-2246
MetKlamp VII vise, left and right
for 10-23xx Delta-Cutter



10-2470 and 10-2471
Sliding vise, left and right
for PowerMet 3000

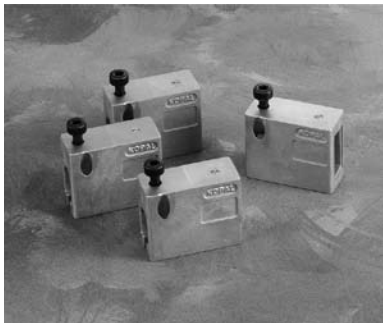
10-3523D
Speed vise kit, large
for Delta-Cutters (14 mm T-slotstones)

10-3528
Large riser block for speed vise kit
10-3533

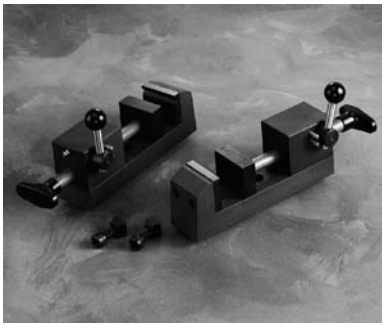


10-3529 and 10-3530
Sliding vise, left and right
for 10-22xx and 10-23xx Delta

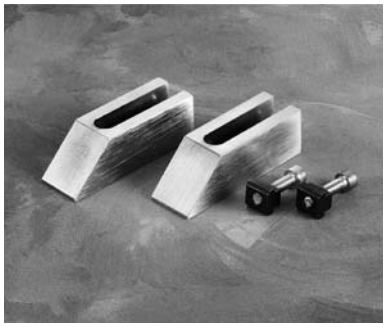
10-3531D
Speed vise kit, small
for Delta-Cutters (14 mm T-slotstones)



10-3532
Small riser block for speed vise kit
10-3531

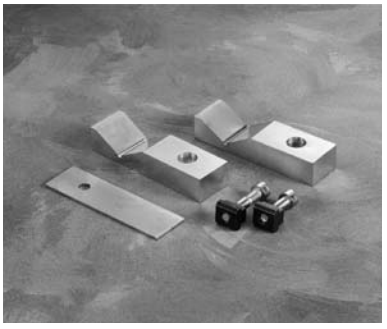


95-C1821 and 95-C1822
MetKlamp camlock vise, left and right
for Delta AbrasiMet and AbrasiMet



10-3525
Adjustable vee blocks

10-3526
Horizontal clamping kit
use together with 10-3523



10-3527
Vee block clamping kit

3. Mounting

3.1. Mounting Presses

SimpliMet 1000 and SimpliMet 3000 fulfil all requirements you are expecting from a modern mounting press. They are simple to use and offer comfortable features. If mounted specimens with different diameters are required, the mould can be exchanged very easily. For small numbers of specimens SimpliMet 2 can be used as a cost-effective alternative.

SimpliMet 1000 20-1415
Automatic Mounting press, 84-264V/50-60Hz/1-phase
with electro-hydraulic operation (compressed air is not required)
for moulds up to Ø 50.8 mm (2"), user's manual included

Without mould, select from below.

SimpliMet 3000 20-1435
Automatic, programmable mounting press, 84-264V/50-60Hz/1-phase
with electro-hydraulic operation (compressed air is not required)
for moulds up to Ø 50.8 mm (2"), user's manual included

Without mould, select from below.

Moulds for SimpliMet 1000, 2000 and 3000
consisting of cylinder, upper and lower ram as well as an intermediate ram for duplex mounts
Mould with duplex spacer Ø 25 mm 20-2405
Mould with duplex spacer Ø 30 mm 20-2406
Mould with duplex spacer Ø 40 mm 20-2407
Mould with duplex spacer Ø 50 mm 20-2408
Mould with duplex spacer Ø 1" (25.4 mm) 20-2401
Mould with duplex spacer Ø 1¼" (31.8 mm) 20-2402
Mould with duplex spacer Ø 1½" (38.2 mm) 20-2403
Mould with duplex spacer Ø 2" (50.8 mm) 20-2404

Accessories
Fine filter for water connections 89 10 61

UKE-S Recirculating system with controller 56 00 25
for SimpliMet 1000 and SimpliMet 3000 mounting presses
Automatic controls, pump will be started and stopped with the attached equipment
Complete with container (60 L) filter, cover, hoses
Chassis and pump 230V/50Hz/1-phase
Dimensions: 600 x 400 x 325 mm (WxDxH)

SimpliMet 20-10054-230
Manual, hydraulic hot mounting press
for mounts up to 38.2 mm (1 ½")
user's manual included
220V/50Hz/1-phase

Without mould, select from below.

Moulds for SimpliMet
consisting of moulding cylinder, upper and lower rams
Mould Ø 25 mm 20-2127
Mould Ø 30 mm 20-2128
Mould Ø 25.4 mm (1") 20-2104
Mould Ø 31.8 mm (1¼") 20-2105
Mould Ø 38.2 mm (1½") 20-2109
Mould with rounded edges Ø 31.8 mm (1¼") 20-2125
Mould with rounded edges Ø 38.2 mm (1½") 20-2126

Duplex Mould consisting of moulding cylinder upper and lower rams and an intermediate ram
to mould two samples simultaneously
Duplex Mould Ø 25.4 mm (1") 20-2204
Duplex Mould Ø 31.8 mm (1¼") 20-2205
Duplex Mould Ø 38.2 mm (1½") 20-2209

Accessories for SimpliMet
TetraMet Mould closure 20-2117
Automatic heater, replacement of 350 Watt for 220 V/50Hz 20-2223-220
Water cooling block with connections 20-2323
Fine filter for water inlet 89 10 61

3.2. Equipment for Cold Mounting

Cast n' Vac 1000 ..... 20-1382-250 E
Vacuum impregnation with vacuum pump
For impregnation of multiple specimens
230 V/50 Hz/1-phase motor for rotation of the moulds in the impregnation chamber
for impregnating porous and friable materials with Epoxides, such as
EpoHeat, EpoThin, EpoCure, EpoPlast, EpoColor etc.
including: 100 measuring cups (20-8177-100)
Silica gel for drying (83 43 01), 100 pieces insert papers (20-2845)
1 Vacuum grease, syringe (83 43 02)

Cast n' Vac 1000 without vacuum pump ..... 20-1384-220 E
As above, but without vacuum pump

Cast n' Vac 20-3510-250
Vacuum impregnation with integrated vacuum pump
for impregnation of single specimens
complete with accessories
230 V / 50Hz

Recessed plastic disc for ringforms Ø 25 mm 20-3511
Recessed plastic disc for ringforms Ø 30 mm 20-3512
Recessed plastic disc for ringforms Ø 1¼ " (31.8 mm) 20-3513
Recessed plastic disc for ringforms Ø 1½" (38.1 mm) 20-3514
Recessed plastic disc for ringforms Ø 40 mm 20-3515
Recessed plastic disc for ringforms Ø 50 mm 20-3516
Recessed plastic disc for ringforms Ø 2" (50.8 mm) 20-3517
Silicone Stopper 20-3518
Hose Clamp 20-3519
Epoxy Supply Tubes (100 pieces) 20-3520-100

Pressure vessel 4 L 19 02 20
Pressure vessel for pore-free curing
of VariKleer, VariDur and other acrylic resins
requires compressed air (2 bar)
Dimensions: Ø 195 mm, H: 185 mm, incl. 2 m hose

Pressure vessel 9 L 19 02 21
Pressure vessel for pore-free curing
of complete sample holders up to Ø 227 mm
of VariKleer, VariDur and other acrylic resins
requires compressed air (2 bar)
Dimensions: Ø 240 mm, H: 265 mm, incl. 2 m hose

Technomat 19 02 00
Pressure chamber for pore-free curing
of VariKleer, VariDur and other acrylic resins
Requires compressed air (2 bar) depending on supply
Dimensions: 340 x 340 x 255 mm (WxDxH), opening Ø 180 mm
Filter and regulator for compressed air 89 10 62

Heating Oven 19 03 04
For keeping samples at moderate temperatures
for faster curing time of epoxies (e.g. EpoHeat)
also suitable as drying chamber
Temperature range 20-220°C
Stainless steel housing, timer 0-24 h
Dimensions: 470 x 520 x 325 mm (WxDxH), 220V/50Hz, 600 W

4. Grinder-Polishers

4.1. EcoMet/AutoMet Specimen Preparation Systems

The EcoMet/AutoMet family of ginder-polishers is the new premium specimen preparation system within the Buehler line. The modular concept provides the possibility to offer a preparation system tailored to your individual needs. All models have a robust motor with high torque and durable design. Surface finishes are chip, stain and corrosion resistant. EcoMet/AutoMet models are available in two variations: Standard and Pro. The standard version offers a traditional membrane keypad, the Pro-version is designed with Panel PC and LCD-touch screen. This user friendly version offers additional features like programmability, method creation and storage and data transferability via USB port plus Zaxis material removal system.

4.1.1. EcoMet 250 Grinder-Polisher (8"/10")

EcoMet 250 single platen, 10-500 rpm 49-7200
Manual grinder-polisher for use with platen 203 mm (8") and Ø 254 mm (10")
Semi-automatic operation (together with AutoMet power head)
Durable cast aluminium construction, stain, chip and corrosion resistant finish
Sealed membrane keypad with user friendly controls
Retractable waterhose and 360° bowl rinse system
D-style bowl for easy platen changing
Exchangeable bowl liner
Splash guard and lid, air- and water-filter
85-264 V / 50-60 Hz, 750 W
Dimensions: 506 x 621 x 470 mm (WxDxH), shipping weight: 45 kg

Platens and accessories for EcoMet 250
Ø 203 mm MagnoDisc 200 aluminium platen with magnetic substrate 16 20 71
Ø 203 mm Universal platen, aluminium 38 53 20

Ø 254 mm MagnoDisc 250 aluminium platen with magnetic substrate 16 25 71
Ø 254 mm Universal platen, aluminium 38 53 25

Bowl liners (5 pieces) 60-9080
Recirculating system with cart and pump, 90 L 49-6111-250
Air-filter/regulator (replacement) 60-9090
Water-filter (replacement) 60-9091

PriMet Satellite 40-2811
Dispensing station with peristaltic pump, 480 mL plastic bottle
Dispenses all water- and oil-based suspensions

4.1.2. AutoMet 250 Powerhead

AutoMet 250 Powerhead 60-7230
Powerhead for EcoMet 250/300
Single and central force application
Pneumatic single force for 6 samples max. Ø 40 mm, 5-45 N/sample
Central force for 3 and more samples (max. amount is dependent on holder), 20-260 N
Controlled via membrane keypad from EcoMet base
Variable speed 30 - 60 rpm, contra and comp
Electromechanical lowering and lifting of the head
LED lighting illuminates platen, bowl, working area (9 LED's)
Robust post (Ø 75 mm) for adapting head to EcoMet base
Powerful 116 W motor
Powersupply from EcoMet base
shipping weight: 32 kg
without specimen holders

Drip feed dispensing bottle (250 mL) with AutoMet attachment arm 60-9094

4.1.3. AutoMet 250 and AutoMet 250

EcoMet 250 + AutoMet 250 49-7250
Semi-automatic preparation system
Soft Start/Stop function to protect delicate specimen
Membrane keypad operation, LED-display for parameters
4.8 bar air required for single force operation
85-264 V / 50-60 Hz, 1 Phase
Can be connected to Buehler dispensing systems
Dimensions: 506 x 621 x 653 mm (WxDxH)
shipping weight: 77 kg
without specimen holders

4.1.4. EcoMet 300 Grinder-Polisher (12")

EcoMet 300 single platen, 10-400 rpm 49-7210
Manual grinder-polisher for use with platen 305 mm (12")
Semi-automatic operation (together with AutoMet power-head)
Durable cast aluminium construction, stain, chip and corrosion resistant finish
Sealed membrane keypad with user friendly controls
Retractable waterhose and 360° bowl rinse system
D-style bowl for easy platen changing
Exchangeable bowl liner
Splash guard and lid, air- and water-filter
170-264 V / 50-60 Hz, 1500 W
Dimensions: 525 x 675 x 470 mm (WxDxH) , shipping weight: 58 kg

Platens and accessories EcoMet 300
Ø 305 mm MagnoDisc 300 aluminium platen with magnetic substrate 16 30 71
Ø 305 mm Universal platen, aluminium..... 38 53 30

Bowl liners (5 pieces) 60-9081
Recirculating system with cart and pump, 90 L..... 49-6111-250
Air-filter/regulator (replacement) 60-9090
Water-filter (replacement)..... 60-9091

PriMet Satellite..... 40-2811
Dispensing station with peristaltic pump, 480 mL plastic bottle
Dispenses all water- and oil-based suspensions

4.1.5. AutoMet 300 Powerhead

AutoMet 300 Powerhead 60-7240
Powerhead for EcoMet 300
Single and central force application
Pneumatic single force for 6 samples max. Ø 50,8 mm (2"), 5-90 N / sample
Central force for 3 and more samples (max. amount is dependent on holder), 40-535 N
Controlled via membrane keypad from EcoMet base
Variable speed 60 - 150 rpm, contra and comp
Electromechanical lowering and lifting of the head
LED lighting illuminates platen, bowl, working area (9 LED's)
Robust post (Ø 75 mm) for adapting head to EcoMet base
Powerful 560 W motor
Powersupply from EcoMet base
shipping weight: 42 kg
without specimen holders

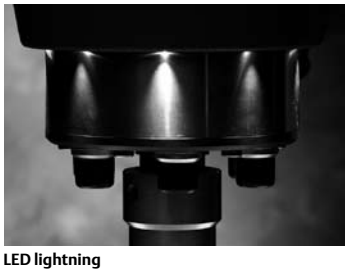
Drip feed dispensing bottle (250 mL) with AutoMet attachment arm..... 60-9094

4.1.6. EcoMet 300 and AutoMet 300

EcoMet 300 + AutoMet 300 49-7260
Semi-automatic preparation system
Soft Start/Stop function to protect delicate specimen
Membrane keypad operation, LED-display for parameters
without specimen holders, including installation package
4.8 bar air required for single force operation
85-264 V / 50-60 Hz, 1 Phase
Can be connected to Buehler dispensing systems
Dimensions: 525 x 675 x 725 mm (WxDxH) , shipping weight: 99 kg
without specimen holders

4.1.7. EcoMet 300 and AutoMet 250

EcoMet 300 + AutoMet 250 49-7255
Semi-automatic preparation system
same as 49-7260, but with AutoMet 250
shipping weight: 90 kg



LED lightning

Bowl liner

Retractable waterhose

4.1.8. EcoMet 250 Pro and AutoMet 250

EcoMet 250 Pro single platen, 10-500 rpm 49-7201
Same as EcoMet 250 (49-7200), but with Panel PC/touch screen
User friendly operation via touch screen controls
Programmability, method creation and storage
Zaxis material removal system
Data transverability via USB port, keyboard port

EcoMet 250 Pro + AutoMet 250 49-7251
Programmable semi-automatic preparation system
Panel PC/touch screen version
Programmability, method creation and storage,
Zaxis material removal system Zaxis material removal system
without specimen holders, including installation package
4.8 bar air required for single force operation
85-264 V / 50-60 Hz, 1 Phase
Can be connected to Buehler dispensing systems
Dimensions: 506 x 621 x 653 mm (WxDxH)
shipping weight: 77 kg
without specimen holders

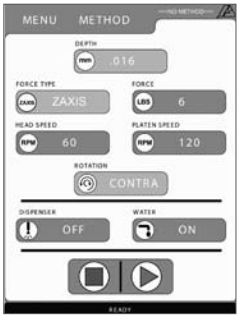
Platens and accessories for EcoMet 250
Ø 203 mm MagnoDisc 200 aluminium platen with magnetic substrate 16 20 71
Ø 203 mm Universal platen, aluminium 38 53 20

Ø 254 mm MagnoDisc 250 aluminium platen with magnetic substrate 16 25 71
Ø 254 mm Universal platen, aluminium 38 53 25

Bowl liners (5 pieces) 60-9080
Recirculating system with cart and pump, 90 L 49-6111-250
Air-filter/regulator (replacement) 60-9090
Water-filter (replacement) 60-9091

PriMet Satellite 40-2811
Dispensing station with peristaltic pump; USB cable
Dispenses all water- and oil-based suspensions, 480 mL plastic bottle

Drip feed dispensing bottle (250 mL) with AutoMet attachment arm 60-9094



4.1.9. EcoMet 300 Pro and AutoMet 300

EcoMet 300 Pro single platen, 10-400 rpm 49-7211
Same as EcoMet 300 (49-7210), but with Panel PC/touch screen
User friendly operation via touch screen controls
Programmability, method creation and storage
Zaxis material removal system
Data transverability via USB port, keyboard port

EcoMet 300 Pro + AutoMet 300 49-7261
Programmable semi-automatic preparation system
Panel PC/touch screen version
Programmability, method creation and storage
Zaxis material removal system Zaxis material removal system
without specimen holders, including installation package
4.8 bar air required for single force operation
85-264 V / 50-60 Hz, 1 Phase
Can be connected to Buehler dispensing systems
Dimensions: 525 x 675 x 725 mm (WxDxH) , shipping weight: 99 kg
without specimen holders

4.1.10. EcoMet 300 and AutoMet 250

EcoMet 300 Pro + AutoMet 250 49-7256
Programmable semi-automatic preparation system
same as 49-7261, but with AutoMet 250 Pro
shipping weight: 90 kg

Platens and accessories EcoMet 300 Pro
Ø 305 mm MagnoDisc 300 aluminium platen with magnetic substrate 16 30 71
Ø 305 mm Universal platen, aluminium 38 53 30

Bowl liners (5 pieces) 60-9081
Recirculating system with cart and pump, 90 L 49-6111-250
Air-filter/regulator (replacement) 60-9090
Water-filter (replacement) 60-9091

PriMet Satellite 40-2811
Dispensing station with peristaltic pump; USB cable
Dispenses all water- and oil-based suspensions, 480 mL plastic bottle

Drip feed dispensing bottle (250 mL) with AutoMet attachment arm 60-9094

4.1.11. Single Force specimen holders for AutoMet 250

Single Force specimen holders Ø 130 mm *(without drive adapter 60-9005)*

Specimen holder for single force 6 x Ø 1" (25.4 mm) 60-9010
Specimen holder for single force 6 x Ø 1¼" (31.8 mm) 60-9011
Specimen holder for single force 6 x Ø 1½" (38.2 mm) 60-9012
Specimen holder for single force 6 x Ø 25 mm 60-9020
Specimen holder for single force 6 x Ø 30 mm 60-9021
Specimen holder for single force 6 x Ø 40 mm 60-9022

Specimen holder, single force, for 27 x 46 mm glass slides (insert for 60-9010) 60-9050

Single Force specimen holders Ø 130 mm for use with distance rings* *(without drive adapter 60-9005)*

Specimen holder for 6 specimens *without distance rings and drive adapter* 60-9030
Distance ring, aluminium, for specimens Ø 1" (25.4 mm) 6 pieces 60-9031
Distance ring, aluminium, for specimens Ø 1¼" (31.8 mm) 6 pieces 60-9032
Distance ring, aluminium, for specimens Ø 25 mm 6 pieces 60-9033
Distance ring, aluminium, for specimens Ø 30 mm 6 pieces 60-9034

4.1.12. Single Force specimen holders for AutoMet 300

Single Force specimen holders *(without drive adapter 60-9005)*

Specimen holder for single force 6 x Ø 1" (25.4 mm) 60-9060
Specimen holder for single force 6 x Ø 1¼" (31.8 mm) 60-9061
Specimen holder for single force 6 x Ø 1½" (38.2 mm) 60-9062
Specimen holder for single force 6 x Ø 2" (50.8 mm) 60-9063
Specimen holder for single force 6 x Ø 25 mm 60-9070
Specimen holder for single force 6 x Ø 30 mm 60-9071
Specimen holder for single force 6 x Ø 40 mm 60-9072
Specimen holder for single force 6 x Ø 50 mm 60-9073

Single Force specimen holder(metric) Ø 160 mm for use with distance rings*
(without drive adapter 60-9005)

Specimen holder Ø 160 mm, for 6 specimens Ø 50 mm* 60-9041
Distance ring, aluminium, for specimens Ø 25 mm 1 piece 40 20 01
Distance ring, aluminium, for specimens Ø 30 mm 1 piece 40 20 02
Distance ring, aluminium, for specimens Ø 32 mm 1 piece 40 20 03
Distance ring, aluminium, for specimens Ø 38 mm 1 piece 40 20 04
Distance ring, aluminium, for specimens Ø 40 mm 1 piece 40 20 05

Single Force specimen holder (inch) Ø 160 mm for use with distance rings*
(without drive adapter 60-9005)

Specimen holder Ø 160 mm, for 6 specimens Ø 2" (50.8 mm)* 60-9040
Distance ring, aluminium, for specimens Ø 1" (25.4 mm) 1 piece 60-9041
Distance ring, aluminium, for specimens Ø 1¼" (31.8 mm) 1 piece 60-9042
Distance ring, aluminium, for specimens Ø 1½" (38.2 mm) 1 piece 60-9043
Distance ring, aluminium, for specimens Ø 25 mm 1 piece 60-9044
Distance ring, aluminium, for specimens Ø 30 mm 1 piece 60-9045
Distance ring, aluminium, for specimens Ø 40 mm 1 piece 60-9046

**Distance rings have to be ordered separately.*

Single Force specimen holder Ø 160 mm for rectangular samples
(without drive adapter 60-9005)

Specimen holder Ø 160 mm, for 3 specimens 40 x 70 mm 60-9055

Single Force specimen holder for AutoMet 300 for use with target holders
(without drive adapter 60-9005)

Specimen holder, single force, for use with 3 target holders 60-9049

Insert for glass slides (thin section preparation)

Specimen holder insert for 25 x 50 mm glass slides, to be used in combination with 60-9060 60-9051
Specimen holder insert for 25 x 75 mm glass slides, to be used in combination with 60-9060 60-9052

4.1.13. Drive adapter for AutoMet Single Force specimen holdes

Drive adapter, single force 60-9005

**Drive adapter must always be purchased separately from specimen holders.*

Accessories and Spare parts

Rubber-rings for single specimens 60-3007
to hold the specimens in the specimen holder when lifting it up
1 kit of 12 pieces:
4 rings for Ø 25 mm and 1"
4 rings for Ø 30 mm, 1¼" and 32 mm
4 rings for Ø 38 mm, 1½" and 40 mm
as accessories for 60-3001 up to 60-3006, 60-9010 to 60-9022 and 60-9061 to 60-9063

4.1.14. Central Force specimen holders for AutoMet 250

Specimen holder Ø 130 mm
made of anodised aluminium for hot and cold mounted specimens, *without drive adapter (60-9000)**

Specimen holder teardrop, for 6 specimens up to Ø 1¼" (32 mm) 60-2422
Specimen holder for central force 6 x Ø 1" / 25 mm 60-2482
Specimen holder for central force 6 x Ø 1¼"/ 32 mm 60-2483
Specimen holder for central force 3 x Ø 1½" / 38 mm 60-2485
Specimen holder for central force 6 x Ø 30 mm 60-2486
Specimen holder for central force 3 x Ø 40 mm 60-2487
Specimen holder for central force for glueing sample(s) to the back side of holder, aluminium 60-2408
Specimen holder for central force, for 4 rectangular specimens up to 1" (25 mm) x 1¼" (32 mm) 60-2409

Specimen holders Ø 157 mm (to be used in combination with 254 mm platen)
made of stainless steel for all types of specimens, *without drive adapter (60-9000)**

- for 5 specimens Ø 18-51 mm, teardrop-shaped 60-8240
- for 6 specimens Ø 12-40 mm, teardrop-shaped 60-8210
- for 12 specimens Ø 10-25 mm, teardrop-shaped 60-8262
- for 5 specimens 55 x 30 mm 60-8254
- for 3 specimens 70 x 40 mm 60-8255
- blank, for glueing sample(s) to the backside of holder, holder made of aluminium 60-8250

4.1.15. Central Force specimen holders for AutoMet 300

Specimen holder Ø 181 mm
made of anodised aluminium for hot and cold mounted specimens, for use In combination with 305 mm platen, *without drive adapter (60-9000)**

- for 12 specimens Ø 25 mm, clamp 60-5266
- for 10 specimens Ø 30 mm, clamp 60-5267
- for 6 specimens Ø 40 mm, clamp 60-5268
- for 3 specimens Ø 50 mm, clamp 60-5269
- for 10 specimens Ø 25 mm and 1" (25.4 mm), barrel 60-5281
- for 10 specimens Ø 30 mm, barrel 60-5287
- for 10 specimens Ø 32 mm and 1¼", barrel 60-5282
- for 6 specimens Ø 38 mm and 1½", barrel 60-5283
- for 6 specimens Ø 40 mm, barrel 60-5288
- for 3 specimens Ø 50 mm and 2", barrel 60-5289
- for 5 specimens Ø 50 mm and 2", barrel 60-5299
- for 10 specimens max. Ø 25,4 mm (1"), teardrop-shaped 60-5251
- for 9 specimens max. Ø 32 mm (1¼"), teardrop-shaped 60-5252
- for 6 specimens max. Ø 38,1 mm (1½"), teardrop-shaped 60-5253
- for 5 specimens max. Ø 52 mm (2"), teardrop-shaped 60-5296
- for 5 specimens max. 59.8 x 35 mm (2" x 1,375") 60-5245
- for 3 specimens max. 76 x 44.5 mm (3" x 1,75") 60-5250
- for 3 specimens max. 76 x 35 mm (3" x 1,375") 60-5270
- for 5 specimens max. 55 x 30 mm 60-5297
- for 3 specimens max. 70 x 40 mm 60-5298
- blank 60-5254
- for 2 specimen max 40 x 160 mm 60-8015

4.1.16. Drive adapter for AutoMet Cental Force specimen holders

Drive adapter central force for AutoMet 250/300 60-9000

**Drive adapter must always be purchased separately from specimen holders.*

4.1.17. Specimen Loading Fixture and Loading Plates

For AutoMet, PowerPro, Phoenix 4000, Vector, BuehlerVanguard
Loading fixture 60-2410

Required for controlled material removal and recommended for all central force specimen holders

Loading plate, reversible for 8" (Ø130mm/5mm) and 10" (Ø157mm/5mm) specimen holders 60-2411
Loading plate, reversible for 10" (Ø157mm/5mm) and 12" (Ø181mm/5mm) specimen holders 60-2412
Loading plate, reversible for 8" (Ø130mm/5mm) and 12" (Ø181mm/5mm) specimen holders 60-2413
Loading plate, reversible for 12" (Ø181mm/5mm) and 14" (Ø210mm/5mm) specimen holders 60-2414

4.2. MetaServ 250/Vector /Vector LC 250 Specimen Preparation Systems

MetaServ 250 are manual grinder-polishers that can be upgraded with Vector or Vector LC 250 to semi-automatic specimen preparation systems. They are ideal, if specimens have to be prepared manually or if a low volume of specimens only requires a simple power head. They offer simple operation and an attractive price.

4.2.1. MetaServ 250 Grinder Polisher

MetaServ 250 single platen, 50-500 rpm 49-10055
MetaServ 250 dual platen, 50-500 rpm 49-10057
Manual grinder-polisher with platen Ø 254 mm (10")
Including: one grinding/polishing platen per spindle
Paper holding band (s) and cloth clamp(s), splash ring(s), cover(s) and manual
Water in- and outlet
115/230 V; 50/60 Hz; 1-phase
Dimensions, single platen unit: 339 x 656 x 326 mm (WxDxH)
Dimensions, dual platen unit: 650 x 656 x 326 mm (WxDxH)

Platen and accessories
Ø 254 mm MagnoDisc 250 aluminium platen with magnetic substrate 16 25 71
Ø 254 mm Universal platen, aluminium 38 53 25
Ø 254 mm Paper holding band for platen 38 53 25 95-2825

Ø 203 mm MagnoDisc 200 aluminium platen with magnetic substrate 16 20 71
Ø 203 mm Universal platen, aluminium 38 53 20
Ø 203 mm Paper holding band for platen 38 53 20 30-2008

4.2.2. Vector LC 250 Power Head for MetaServ 250

Vector or Vector LC 250 power heads enable the upgrade of MetaServ 250 models to semi-automatic specimen preparation systems. Vector offers single and central force, Vector LC 250 single force. Thus 1 to 4 specimens can be prepared under reproducible conditions.

Vector LC 250 60-10059-230
Power Head for single force
Single Force up to 4 specimens max Ø 40 mm
Force max 50 N/sample, spring load system
Head Speed 60 rpm, On/Off-switch
230V/ 50 Hz/ 1-phase
without specimen holder

Vector 60-1990
Power head for pneumatic single and central force,
Setting and control of time, pressure, speed and direction, automatic start and stop.
Single pressure operation for maximum 40 N per sample; up to 4 specimens max Ø 40 mm
Central force for 3 to 6 specimens up to Ø 40 mm, according to holder selected
Maximum pressure 200N
Head Speed: 60 rpm; choice of contra or complementary direction; 5-6 bar pressure
controller port for Buehler automatic dispenser
Power supply 85-265 V and 47-63 Hz (current, neutral and ground)
incl. dispenser (drip device with holder and nozzle)
cable, electromagnetic water valve, control cable for Beta, manual
without specimen holder: choose from the list below

Accessories and Spare parts:

Air filter with regulator, complete 89 10 62
Adapter box for Vector when operated with Alpha 400V-Model (old machine up to 2001)
For automatic start and stop of the Vector with the Alpha (3 x 400 V) 60-3010

4.2.3. Specimen Holder for Vector LC 250, single force

Vector LC 250 specimen holders, single force
(without drive adapter 60-9005)
Specimen holder for single force 4 x Ø 1" (25.4 mm) 60-10060
Specimen holder for single force 4 x Ø 1¼" (32 mm) 60-10061
Specimen holder for single force 4 x Ø 1½" (38 mm) 60-10062
Specimen holder for single force 4 x Ø 25 mm 60-10063
Specimen holder for single force 4 x Ø 30 mm 60-10064
Specimen holder for single force 4 x Ø 40 mm 60-10065

Accessories and spare parts

Rubber-rings for single specimens 60-3007
to hold the specimens in the specimen holder when lifting it up
1 kit of 12 rings:
4 rings for Ø 25 mm and 1"; 4 rings for Ø 30 mm, 1¼" and 32 mm
4 rings for Ø 38 mm, 1½" and 40 mm
as accessories for 60-3001 up to 60-3006, 60-9010 to 60-9022 and 60-9061 to 60-9063

4.2.4. Drive adapter for Vector LC 250 single force specimen holders

Drive adapter, single force 60-9005
**Drive adapter must always be purchased separately from specimen holders.*

4.2.5. Specimen Holder for Vector, single force

Vector Specimen holder single force
including holder adapter and rubber retaining rings
Specimen holder for single force 4 x Ø 1" (25.4 mm) 60-3001
Specimen holder for single force 4 x Ø 1¼" (32 mm) 60-3002
Specimen holder for single force 4 x Ø 1½" (38 mm) 60-3003
Specimen holder for single force 4 x Ø 25 mm 60-3004
Specimen holder for single force 4 x Ø 30 mm 60-3005
Specimen holder for single force 4 x Ø 40 mm 60-3006

Petrographic/Histolic single force specimen holder for 4 x 69-1584 inserts 60-3000
Petrographic/Histolic thin section holders, set of 4 69-1584
Insert for slides 48 x 25 mm, requires 60-3006 sample holder 1485-S040

Accessories and Spare parts:
Rubber-rings for single specimens to hold the specimens in the specimen holder
when lifting it up, 1 kit of 12 rings:
4 rings for Ø 25 mm and 1", 4 rings for Ø 30 mm, 1¼" and 32 mm
4 rings for Ø 38 mm, 1½" and 40 mm, as accessories for 60-3001 up to 60-3006 60-3007

Thin sectioning specimen holders for Vector or Vector LC can be found under Section 12.

4.2.6. Specimen holder for Vector, central force

Vector Specimen holder for central force
Diameter-Ø 130 mm, incl. tools and screw but without specimen holder adapter (60-2499)
Specimen holder Teardrop, for 6 specimens up to Ø 1¼" (32 mm) 60-2422
Specimen holder for central force 6 x Ø 1" / 25 mm 60-2482
Specimen holder for central force 6 x Ø 1¼"/ 32 mm 60-2483
Specimen holder for central force 3 x Ø 1½" / 38 mm 60-2485
Specimen holder for central force 6 x Ø 30 mm 60-2486
Specimen holder for central force 3 x Ø 40 mm 60-2487
Specimen holder for central force for glueing sample(s) to the back side of holder, aluminium 60-2408
Specimen holder for central force, for 4 rectangular specimens up to 1" (25 mm) x 1¼" (32 mm) 60-2409

Adapter for specimen holder with central force 60-2499

Please note: It is absolutely necessary to order one adapter (60-2499) for each specimen holder for central force

Loading plate for central force specimen holders, fits on Ø 130/5 mm/Ø 181/5 mm 60-2425

4.3. PriMet Modular Dispensing System

PriMet 3000 40-2800
Modular Dispensing system using peristaltic pumps
touch panel controls and LED-display
Dispenses all water- and oil-based suspensions,
2 x 480 mL plastic bottles
Two bottle system can be expanded to 10 bottles with addition of PriMet Satellites
85-264 V/50-60 Hz/1-phase, dimensions: 259 x 298 x 216 mm (WxDxH)

PriMet Satellite 40-2810
Dispensing station with peristaltic pump, touch panel controls and LED-display
Dispenses all water- and oil-based suspensions, 480mL plastic bottle
Stand alone with START/STOP-Function via Buehler grinder/polishers
Hand switch for manual on/off cycle activation
Transformer 12 V for 220-240 V/50 Hz/1-phase; USB cable

PriMet Satellite 40-2811
As 40-2810, but without hand switch 40-2823 and 12 V tansformer 40-2825

PriMet Satellite for use with PriMet 3000 only 40-2812

Accessories and spare parts
PriMet Dispensing arm with stand to combine tubes for multiple satellites 40-2822
PriMet Hand switch for manual on/off cycle activation 40-2823
PriMet Plastic bottle, 480 mL 40-2824
PriMet 12 V Transformer 40-2825
PriMet Replacement tubing 3.2 mm 40-2826
PriMet Replacement tubing 4.8 mm 40-2827
PriMet Supply tubing with connectors (set of 3) 40-2828
PriMet Peristaltic pump replacement tube 40-2829
PriMet Dispensing tips (set of 10) 40-2830
PriMet Luer Fittings, twist lock (Set of 10) 40-2831
PriMet 18" Satellite to Satellite Connectors, USB, set of 3 40-2832
PriMet Tri-Satellite connector for connecting up to 3 satellites 40-2834

Polisher to satellite connector to connect MotoPol preparation system
(for all machines with serial numbers up to 1086), including connector cable no. 40-2704 40-2703

Polisher to satellite connector to connect AutoMet 2 or 3, MotoPol Systems (to serial-no. 1087),
Phoenix 4000 (adapter 40-2706 must be used) and Vector 40-2704

Adapter cable for connection of PriMet/MetLap 2000 to Phoenix 4000 (with 40-2704) 40-2706
Adapter cable 9-pin for connecting PowerPro Models to PriMet 3000 40-2707

Accessories for Grinder-Polishers

Single Force specimen holders for Vector, Vector LC, BuehlerVanguard and AutoMet (old versions)

60-3002 / 60-3005

60-3003 / 60-3006

60-3001 / 60-3004

Central Force drive adapter for Vector, BuehlerVanguard and AutoMet (old versions)

60-2499

Central Froce drive adapter for Phoenix 4000 and PowerPro

49-8002

Single Force specimen holder with distancerings for AutoMet

40 07 00 / 60-2100

40 20 xx

89 80 xx

60-3000

Single Force specimen holder for preparation of thin sections with Vector LC, Vector, BuehlerVanguard and AutoMet (old versions)

60-9049

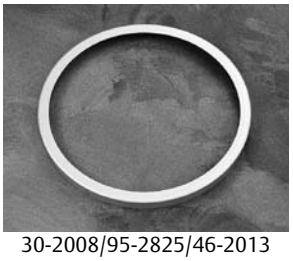
Single Force specimen holder for EcoMet 300 for use with target holders

38 53 20 - 38 53 30

backside

Universal platen

Paper holding band and cloth clamp (only for manual grinding and polishing)



30-2008/95-2825/46-2013

40-2058/95-2826/46-2012

60-2425

Loading plate for central force specimen holders (old version)

60-3024

Specimen loading fixture and loading plate

Accessories for Grinder-Polishers

Single Force specimen holder for AutoMet 250 and AutoMet 300

60-9011

Drive adapter for Single Force specimen holders for AutoMet 250 and AutoMet 300

60-9005

Central Force specimen holders for AutoMet 250, Vector and BuehlerVanguard Ø 130 mm

60-2482

60-2483 / 60-2486

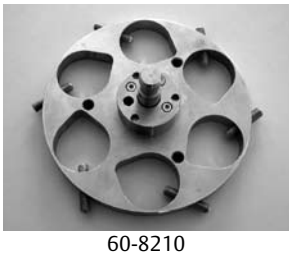
60-2484 / 60-2485 / 60-2487

60-2408

60-2409

60-2422

Central Force specimen holders for AutoMet 250 and AutoMet 300 Phoenix 4000 and PowerPro Ø 157 mm
(Drive adapter shown is for Phoenix 4000)



60-8210

60-8255

60-8250

Central Force specimen holders for AutoMet 300 Phoenix 4000 and PowerPro Ø 181 mm

60-5266

60-5253

60-5252

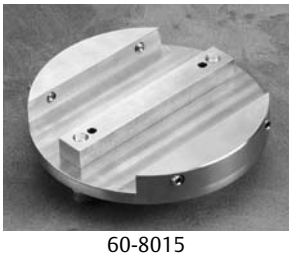
60-5281

60-5282 / 60-5287

60-5283 / 60-5288

60-5245

60-5254



60-8015

60-9000

Drive adapter for Central Force specimen holders for AutoMet 250 and AutoMet 300

4.4. PoliMet 1000 Variable Speed Grinder-Polisher

The PoliMet 1000 series of high torque, variable speed grinder-polishers are designed to be flush mounted Into a table for hand preparation of a wide variety of materials. They offer speeds of 100 to 1200 rpm, for aggressive grinding and polishing. These sturdy grinder-polishers are easily mounted in Buehler Tech-Met tables or your own laboratory countertops.

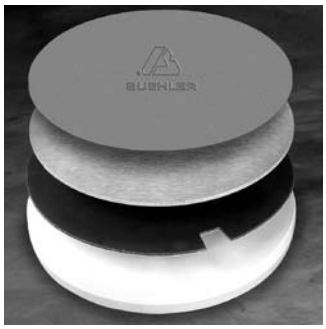
PoliMet 1000 Grinder-Polishers
750 W motor, speed 100-1200 rpm
Sturdy aluminium base, integral bowl and optional rinsing sink
Easy to use control panel, built-in bowl flush
Watersupply 1/4" (6.35 mm) and drain connection 1" (25.4 mm)
1 bronze platen, mechanical brake
220-240 V / 50 Hz / 1P

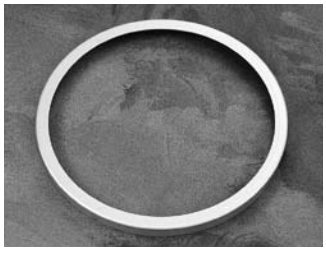
PoliMet 1000 with sink, platen-Ø 305 mm (12") 47-2890-250
Cutout dimensions: 900 x 700 mm (WxD)

PoliMet 1000 with sink, platen-Ø 203 mm (8") 47-2895-250
Cutout dimensions: 820 x 630 mm (WxD)

PoliMet 1000 without sink, platen-Ø 203 mm (8") 47-2896-250
Cutout dimensions: 430 x 610 mm (WxD)

4.5. Platens and Accessories





MagnoDisc ready-to-use magnetic platen
Ø 203 mm (8") MagnoDisc 200 aluminium platen with magnetic substrate 16 20 71
Ø 254 mm (10") MagnoDisc 250 aluminium platen with magnetic substrate 16 25 71
Ø 305 mm (12") MagnoDisc 300 aluminium platen with magnetic substrate 16 30 71

Universal platen, aluminium (20 mm thick)
Ø 203 mm (8") Universal grinding platen in aluminium 38 53 20
Ø 230 mm (9") Universal grinding platen in aluminium ** 38 53 23
Ø 254 mm (10") Universal grinding platen in aluminium 38 53 25
Ø 305 mm (12") Universal grinding platen in aluminium 38 53 30

*** This platen is only for self adhesive paper and/or to use with adhesive films!*

Paper holding band for Universal platen*
Ø 203 mm (8") Paper holding band for platen 38 53 20 30-2008
Ø 254 mm (10") Paper holding band for platen 38 53 25 95-2825
Ø 305 mm (12") Paper holding band for platen 38 53 30 46-2013

Cloth clamp for Universal platen*
Ø 203 mm (8") Cloth clamp 40-2058
Ø 254 mm (10") Cloth clamp 95-2826
Ø 305 mm (12") Cloth clamp 46-2012

**Cloths are not available for platen of Ø 230 mm*

*** The use of paper holding band and cloth clamp is only recommended during manual preparation.**

4.6. Drive Platens and Adapting Pins

Universal drive platens
To retro-fit on older Wirtz equipment
Universal drive platen WBS* 200 mm Ø for platen up to Ø 254 mm 89 10 78
Universal drive platen WBS* 250 mm Ø for platen up to Ø 305 mm 89 10 79
**WBS = Drive platen allowing the use of either Wirtz, Buehler or Struers platens*

Adapting pins for all Platens
3 pins, for adapting platen on Wirtz-machines 38 53 01
3 pins, for adapting platen on Struers-machines 38 53 02

5. HandiMet Roll Grinder

HandiMet 2 39-1572
Hand grinding equipment for manual wet grinding
for 4 rolls (Size max 90 x 220 mm)
complete with 4 SiC sample-rolls of paper grit 240-320-400-600
(eq. to P280-P400-P800-P1200)
Dimensions: 480 x 560 x 150 mm (WxDxH)

6. Belt Surfacers

SurfMet 1 16-1270-250
Belt grinder for wet grinding with one belt (102 x 914 mm)
Wash sink and spigot
230V/50Hz/1-phase
Dimensions: 460 x 530 x 280 mm (WxDxH)
Requires assembly kit 16-3170

DuoMet 2 16-1290-250
Belt grinder for wet grinding with two belts (102 x 914 mm)
Wash sink and spigot
230V/50 Hz/1-phase
Dimensions: 610 x 530 x 208 mm (WxDxH)
Requires assembly kit 16-3180

Accessories for SurfMet and DuoMet
Assembly kit SurfMet for the connection to tap water or recirculating 10-1250-250 16-3170
Assembly kit DuoMet for the connection to tap water or recirculating 10-1250-250 16-3180
Recirculating Unit (tank and pump) 10-1250-250

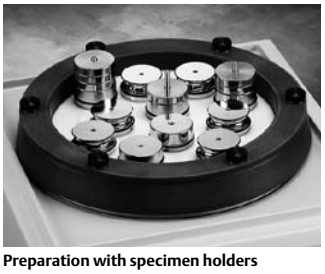
7. Vibratory Polisher

Vibratory polishing offers a cost effective means of preparing high quality polished surfaces on a wide variety of materials. VibroMet 2 utilizes a powerful drive mechanism that produces nearly 100% horizontal vibratory motion with virtually no vertical motion. This motion of 7200 cycles per second produces a gentle yet very effective polishing action with superior quality results and exceptional flatness.

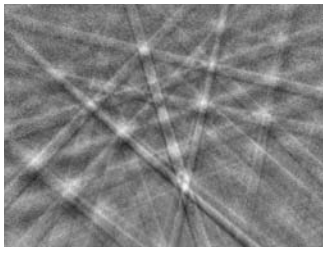
VibroMet 2 67-1635-250
Automatic vibratory polisher, 7200 Hz
with sensors, switches and variable vibration amplitudes shown on LED
230 V/50 Hz/1-phase; dimensions: 460 x 570 x 360 mm (WxDxH)
12" (Ø 305 mm) polishing bowl/platen for max.18 specimens simultaneously
Manual included. Without specimen holders and sample weights
Choose from the following:

Accessories
Specimen holder for specimens Ø 50.8 mm (2"), 3 pieces 67-1525
Specimen holder for specimens Ø 25.4 mm (1"), 3 pieces 67-1526
Specimen holder for specimens Ø 31.8 mm (1¼"), 3 pieces 67-1527
Specimen holder for specimens Ø 38.2 mm (1½"), 3 pieces 67-1528
Specimen weights suitable for all types of specimen holders, 9 pieces 67-1529
Vibromet Loading Fixture 1"-1½" 67-1540
Vibromet Loading Fixture 2" 67-1541

Spare parts
Polishing bowl and clamping ring for VibroMet 2 67-1530


Preparation with specimen holders

Preparation of unmounted samples


Ideal for preparation of EBSD samples

8. MiniMet – The small preparation system

MiniMet 1000 is designed for a low volume laboratory preparing single specimens. This semi-automatic grinder-polisher prepares a wide variety of materials using three self contained preparation bowls and easy-to-use touch panel controls. Its space saving design employs a patented geometric action that combines the advantage of hand-lapping as well as mechanical polishing. This motion provides a random polishing action, eliminating any induced polishing artifacts.

MiniMet 1000 69-1100
Microprocessor controlled grinding and polishing
equipment with LED display and controls for time
speed and pressure. Soft start and stop function
Complete with 3 grinding/polishing bowls, 3 glass plates
and samples of grinding and polishing media
85-265V/50-60 Hz/1-phase
Dimensions: 180 x 400 x 200 mm (WxDxH)

Accessories

Caged specimen holder for specimens with Ø 25.4 mm (1") or 31.8 mm (1¼") 69-1111
Caged specimen holder for specimens with Ø 38.2 mm (1½") 69-1112
Bowls (3 pieces in colours black, white and blue) for Ø 73 mm glass plates 69-1500
Bowls (3 pieces in colours yellow, green and red) for Ø 73 mm glass plates 69-1501
Storage boxes (3 pieces) 69-1502
Glass plates, 73 mm Ø; (3 pieces) 69-1510
Sample drilling device with 3 drills 69-1550
Extra drillbits (3 pieces) 69-1552

MiniMet 1000 – Auxiliary equipment

Equipment for precision thin sections (i.e. TEM-Preparations)
Thinning device with special grinding and polishing discs (2.13")
Micrometer screw and stopping device for precise thinning to preset thickness,
with manual 69-1566
Glass slide Ø 12 mm for precision thinning device (50 pieces) 69-1562
Glass plate Ø 54mm (2 1/8") for support of UltraPrep-Film (5 pieces) ..... (1560-S-037) 69-1567
Device for electromechanical polishing with polishing bowl
connections to anode and cathode and Electromet 10 V rectifier for 220V/50 Hz/1-phase 69-1570
Device for polishing thin sections of 27 x 46 mm glass slides 3 polishing bowls (black, white and blue)
of 100 mm Ø with 3 glass platens Ø 100mm and one specimen holder, manual 69-1580
One set of 3 large polishing bowls of 100 mm Ø black, white and blue 69-1581
Extra glass discs for 100 mm Ø bowls, Set of 3 69-1582
Extra specimen holder for thin sections, 27 x 46 mm 69-1583
Polishing accessories for preparing wafers
with variable height adjustment of wafer samples of 25 mm (1"), manual 69-1590

Accessories for MiniMet (previous version)

Thinning device with special grinding and polishing discs (i.e. TEM Samples) up to Ø 10 mm
Micrometer screw and stopping device for precise thinning to preset thickness, manual 69-1560
Glass slide Ø 10 mm for precision thinning device (50 pieces) 69-1561

9. Fully Automated Preparation of Specimens

The BuehlerVanguard is a fully-automatic grinding and polishing system for sample preparation. After the specimens have been fixed in the specimen holder, the operator chooses the preparation parameters for up to six processing steps, which continue without further operator handling. The platen exchange and cleaning procedure between the preparation stages is microprocessor-controlled. The programming is done via user- friendly software and can be entered or modified via easy-to-use controls on the touch panel. The BuehlerVanguard system offers the possibility to use the central or individual load specimen holders. A robotic arm transports the platen into the grinding polishing base. The abrasive suspensions, such as diamond suspensions, are sprayed with an integrated dispensing system onto the platen. In the cleaning station, the entire specimen holder is cleaned in an ultra-sonic tank where it is cold or warm air-dried.
The compact size of BuehlerVanguard allows its use in the metallography laboratory without large expenditure. The installation requires only about 1m on your table. A water inlet and outlet is needed; as is a compressed air supply.

BuehlerVanguard 2000 63-2000
Fully automatic preparation system
Table top model using 203mm platens
Fully Automated preparation machine for individual or central force
with 6 aluminium platen
integrated dispensing and ultrasonic cleaning system
drying dock; all controlled by PC-based windows type interface, 400W
174-264 V / 47-63 Hz / 1 phase
Dimensions: 997 x 601 x 800mm (WxDxH), weight: 159 kg
without specimen holders

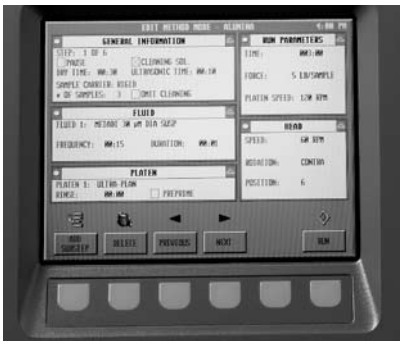
Specimen holder for single force
for 6 specimens Ø 1" 63-1002
for 6 specimens Ø 1¼" 63-1003
for 3 specimens Ø 1½" 63-1004
for 6 specimens Ø 25 mm 63-1005
for 6 specimens Ø 30 mm 63-1006
for 3 specimens Ø 40 mm 63-1007

Specimen holder for central force (without drive adapter)
Teardrop, for 6 specimens up to Ø 1¼" (32 mm) 60-2422
for 6 specimens Ø 1" and 25 mm 60-2482
for 6 specimens Ø 1¼" 60-2483
for 3 specimens Ø 1¼" 60-2484
for 3 specimens Ø 1½" 60-2485
for 6 specimens Ø 30 mm 60-2486
for 3 specimens Ø 40 mm 60-2487
blank 60-2408
for 4 rectangular specimens up to 1" (25 mm)x 1¼" (32 mm) 60-2409
Drive Adapter**,** for use with Lift-type Chuck - Barrel Holders 60-2499

Note: For central force holders, the drive adapter no. 60-2499 is absolutely necessary.

Levelling disc for central force specimen holder, turnable Ø 130/5 mm/Ø 181/5 mm 60-2425
Aluminium platen for BuehlerVanguard Ø 203 mm 63-1001

For Reference: The platen can be supplied with the magnetic substrate MagnoFix.



Display BuehlerVanguard 2000

Integrated dosingsystem BuehlerVanguard 2000

10. Manual Grinding Fixtures

Flat cross-sections with hand preparation are achievable with manual specimen holders. After completion, the sample can be easily removed. For grinding, the sample is inserted into the holder and locked with a screw. The sample can then be prepared until it reaches a ceramic ring that has been set with the thickness of material that has to be removed. The ceramic ring on the specimen holder prevents grinding beyond the preset measurement. The thin-section hand specimen holder is particularly suitable for grinding thin-sections fixed on glass slides. With both types of holder, the accuracy reaches the µm-range.

Thin-section specimen holder for defined and precise material removal*
for 28 x 48 mm glass slides, scale in 10 µms 60-8100

Target holder for precise and defined material removal*
Ring scale of 10µm, for one mounted Ø 25 mm (or 1") specimen 60-8101

Target holder for precise and defined material removal*
Ring scale of 10µm, for one mounted Ø 30 mm specimen 60-8112

Target holder for precise and defined material removal*
Ring scale of 10µm, for one mounted Ø 40 mm specimen 60-8113

Target holder for precise and defined material removal*
Ring scale of 10µm, for one mounted Ø 1¼" (31,8 mm) specimen 60-8102

Target holder for precise and defined material removal*
Ring scale of 10µm, for one mounted Ø 1½" (38,2 mm) specimen 60-8103

Target holder for precise and defined material removal*
Ring scale of 10µm and micrometer screw, for electronic parts 60-8105
Mould for making rectangular specimens (5x35mm) for 60-8105 20-8210

** One wear ring each (60-8110 and 60-8111) per target holder is included.*

Wear ring for above target holders with ceramic coating (replacement) 60-8110
Wear ring for above target holders, hardened steel (replacement) 60-8111

Single Force specimen holder for AutoMet 300 for use with target holders
(without drive adapter 60-9005)
Specimen holder, single force, for use with 3 target holders 60-9049

Thin section specimen holder

Target holder for electronic parts

Mould 20-8210

11. Thin Sections and Petrography

Making a thin section normally requires special techniques for cutting the samples. Delta PetroCut is an abrasive cutter, specially designed for cutting rocks, minerals, stone, glass, concrete or similar materials. PetroThin is an easy to use thin sectioning system. A built-in vacuum pump provides a strong positive vacuum to the universal chuck to ensure all petrographic slides will be held in place during resectioning and grinding. In the fist step, the sample is resectioned with a blade. The next step is grinding the sample to desired thickness with a cup grinder. Besides PetroCut and PetroThin, IsoMet precision cutters can also be used for cutting specimens. We offer a wide variety of vises. IsoMet 5000 together with cup grinders can be used for grinding samples.

The preparation of thin sections can be done on most of our regular Grinder-Polishers (see previous sections). Preparation can be done manually on manual Grinder-Polishers or semi-automatic with a Power Head utilizing single force specimen holders.
MiniMet 1000 also offers special accessories for thin section sample preparation.

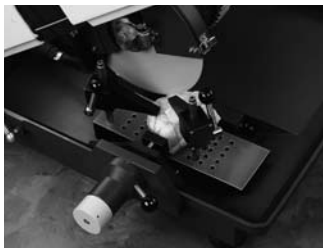
Lapro slab saw 24" 11-1360-250
Designed for the petrographer and lapidarist specifically for sectioning large samples
Floor model; 0,7 kW, 230 V/50 Hz, 480 rpm
Unique hydraulic and dead weight control system to ensure proper feed
Blade capacity: Ø 610 mm / 24", cutting capacity: Ø 241 mm
rock clamp vise, max 254 x 305 x 559 mm (HxWxD)

Buehler TrimSaw 6" **10-10001-250**
Trim Saw for cutting minerals, rocks and concrete
Bench-top model, 1725 rpm
Blade: Ø 152 mm (6"), arbor: Ø 15.9 mm (5/8")
Self aligning tabletop 254 x 279 mm (WxD)
220 V / 50 Hz; 0.25 kW
Dimensions: 508 x 483 x 330 mm (LxWxH), shipping weight: 19 kg

Accessories
Rock vise for Buehler TrimSaw 6" 10-10002

Buehler PowerFeed TrimSaw 10" 10-10003-250
Trim Saw for cutting minerals, rocks and concrete
with clutch-activated automatic feed system (ca. 13 mm/m)
Bench-top model, 1725 rpm
Blade: Ø 254 mm (10"), arbor: Ø 15.9 mm (5/8")
Including rock vise
220 V / 50 Hz; 0.25 kW
Dimensions: 914 x 584 x 431 mm (LxWxH), shipping weight: 48 kg

Delta PetroCut 10-2156-400
Manual Chop Cutter for a wide variety of material and laboratory applications
especially the sectioning of petrographic samples
3 kW, 380 V/50 Hz, 3400 rpm
Mechanical break and hood lock
Blade capacity: Ø 254 mm / 10", cutting capacity: Ø 95 mm (□ 95 x 76 mm)
Base plate with threaded holes 285 x 90 mm (WxD), rock clamp assembly
Without recirculating system

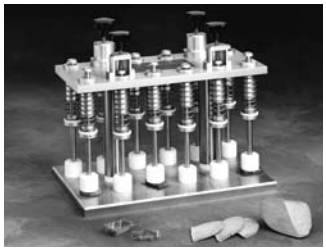


Accessories and other clamping devices
Recirculating system, 60 L with pump and cart 56 00 23
Recirculating system, 27 L 10-2165-400
Recirculating system (27 L) cart 16-1497
Speed Vise kit, small (consisting of 2 x 46 00 22 + 2 x 46 00 27 + 2 x 46 00 23) 10-3531
Speed Vise kit, large (consisting of 2 x 46 00 21 + 2 x 46 00 27 + 2 x 46 00 23) 10-3523

Spare parts
Rock clamp assembly 10-3533

11. Thin Sections and Petrography (continued)

PetroThin 38-1450-250
System for fast and precise sectioning and grinding of petrographic thin sections
203 mm (8") diamond cup-wheel with continuous rim
203 mm (8") diamond cutting blade
Micrometer for precise cutting and grinding of material from the bonded sample to slide
Corrosion resistant housing
Built-in vacuum pump with gauge and filter
Vacuum chuck to hold a variety of slide dimensions
230 V/50 Hz/1-phase
Dimensions: 590 x 480 x 305 mm (WxDxH)



Accessories
Recirculating system for PetroThin 95-C1760

PetroBond 38-1490
Pressure system to facilitate bonding samples to slides
Suitable for up to max. 12 thin sections, 2" x 3", spring load mechanism
Dimensions: 305 x 225 x 305 mm (WxDxH), 9 kg

PetroVue 30-8050-220
Viewer for inspecting the quality and thickness of a thin-section without microscope
Polarized light, 100 W, 220-240V/50 Hz/1-phase
Dimensions: 150 x 405 x 305 mm (WxDxH), 4.5 kg

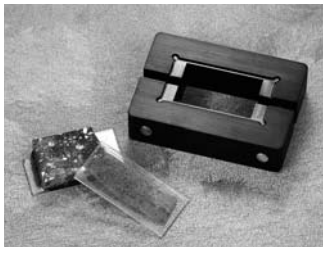
Other accessories
Storage box for slides 38-8005

Thin section specimen holder for AutoMet 300, single force

Single Force specimen holders *(without drive adapter 60-9005)*
Specimen holder for single force 6 x Ø 1" (25.4 mm) 60-9060

Insert for glass slides (thin section preparation)
Specimen holder insert for 25 x 50 mm glass slides, to be used in combination with 60-9060 60-9051
Specimen holder insert for 25 x 75 mm glass slides, to be used in combination with 60-9060 60-9052

Thin section specimen holder for Vector LC, single force
Petro/Histolic single force specimen holder 60-3000
Petro/Histolic thin section holders (set of 4) for slides 27 x 46 mm 69-1584

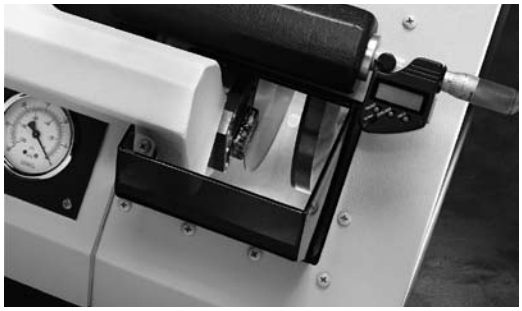


Manual grinding-polishing of thin section specimens

Glass slide holder (hand-held) with CBN stops 30-8000
Thin section slide holder (hand-held) with CBN stops for grinding of the slides 30-8001
Petrographic slide holder, plastic (hand held) for slides 27 x 36 mm, without stops 30-8005

Use thins section slide holder 30-8001 to grind the slides down to a thickness of 1.2 mm. Then glue the specimen onto the slide and use glass slide holder 30-8000 to grind the specimen (object plus glue) down to a thickness of 75 µm. Both hand-held holders can be used with glass slides of different sizes. Clamping width is 27-34 mm.

Lapro: rock clamping vise



PetroThin: cutting with diamond blade

12. PWB Preparation Equipment

NelsonZimmer 2000 System 60-9095
Consisting of grinder-polisher EcoMet 4000 (49-1780)
and semi-automatic head AutoMet 2000 (60-1970)
plus PC Met Precision specimen holder (60-5090) for reproducible cross-sections
of through-holes down to 0.008" (200 µm)
100-250 V / 50-60 Hz
Dimensions: 470 x 640 x 720 mm (WxDxH), shipping weight 114 kg
Platen for EcoMet 4000 see section 6.11.

PC Met 2000 Precision High Volume PWB Accessory 60-5090
Specimen holder for PWB-preparation, mounts on Buehler 12" grinder-polishers
for reproducible cross-sections of through-holes down to 0.008" (200 µm)
Up to 6 coupons 1" (25.4 mm) in each one of the 6 cavities
Tungsten carbide and diamond stops

Accessories and spare parts
Cup, upper mould plate, 6 pieces 60-5061
Cup, lower mould plate, 6 pieces 60-5062
Alignment hole drill fixture for 60-5090 and PC Met JR. 60-5069
Tungsten carbide stops (set of 3, brass holders are not included) 60-5091
Diamond stops (set of 3, brass holders are not included) 60-5092
PC Met Precision Holder 60-5095

NelsonZimmer 3000 System 60-9096
Consisting of grinder-polisher EcoMet 4000 (49-1780)
and semi-automatic head AutoMet 2000 (60-1970)
plus PWB Met small hole accessory (60-5175) for reproducible cross-sections
of through-holes down to 0.004" (100 µm)
100-250 V / 50-60 Hz
Dimensions: 470 x 640 x 720 mm (WxDxH), shipping weight 114 kg
Platen for EcoMet 4000 see section 6.11.

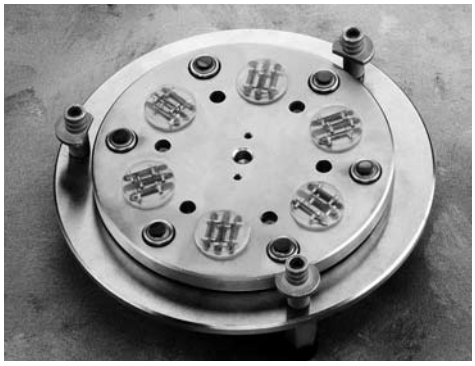
PWB Met Small Hole Accessory 60-5175
Precision specimen holder for PWB-preparation, mounts on Buehler 12" grinder-polishers
Provides accuracy for through-holes down to 0.004" (100 µm)
Up to 3 separate coupons 1" (25.4 mm), 3.2 mm thick, in each one of the 6 cavities
Polycrystalline diamond stops

Accessories and spare parts
Polycrystalline diamond stop 60-5173
Polycrystalline diamond long stop (assembly) 60-5093
Polycrystalline diamond short stop (assembly) 60-5094
PWB Met Sample holder with stops (3 slots) 60-5097
PWB Met Sample holder with stops w/blanks 60-5098
PWB Met Pins 3/8" long, 3000 per container 60-5084

Indexing pins, 1000 pieces 60-5053
PWB Met short pin loader, for 3/8" long pins 60-5186
PWB Met Sample extractor, removes polished samples form the sample holder 60-5185

Dial gauge with analog readout, for measuring and adjusting height of grinding stops 60-5055

PWB coupons with pins



Mounted coupons in PC Met 2000 precision specimen holder

13. Preparation of Chips and IC's

MPC 2000 49-3100
Low-speed grinder-polisher base (1-50 rpm), 8" (203 mm) platen
for automatic precision grinding of IC's
including precision-lapped stainless steel platen
Applicator roller for abrasive film UltraPrep
84-264V/50-60 Hz, 572 x 715 x 572 mm (WxDxH), 91 kg

Accessories
Precision-lapped stainless steel platen 8" diameter 40-4064
Ø 203 mm Universal grinding platen in aluminium 38 53 20
Tilt alignment microscope with 200x mag. for precise positioning of the samples 60-5152
Large micrometer display 60-5153

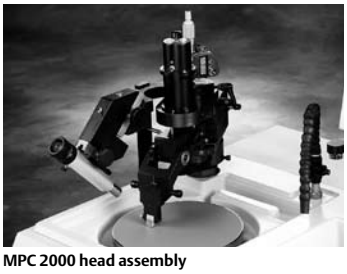
MicroPrecise TriPoint 60-5300
TriPoint Polisher for precise hand preparation of small specimens
Kit complete with 2 standard micrometer screws
2 replaceable micrometer feet, wedge mount assembly, adjustable support leg
diverse accessories

MicroPrecise TriPoint 60-5301
TriPoint Polisher Kit, as 60-5300, but with 2 rotating stainless steel micrometers

Accessories, Spare parts and consumables
Standard steel precision micrometer screw 60-5306
Stainless steel precision micrometer screw 60-5307
Wedge mount assembly 60-5310
Polymer micrometer feet, replacement (2 pieces) 60-5311
Glass inserts for wedge polishing (2 pieces) 60-5312
SEM cross-sectioning paddle, 1/8" (3.2 mm) Ø arbor 60-5313
Polymer inserts for wedge polishing (2 pieces) 60-5314

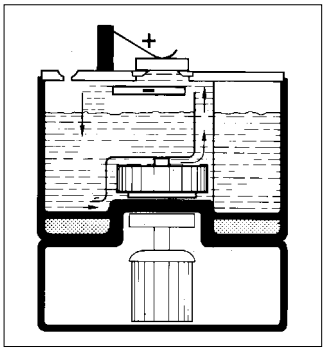
Glass platen to affix UltraPrep lapping films
Glass platen Ø 203 mm (8") 60-5103
Glass platen Ø 305 mm (12") 60-5116

For precise preparation, it is recommended that the grinding and polishing equipment operates at low rpm. Usually chips, IC.s and other microelectronic components are prepared with UltraPrep lapping films. These are fixed on the glass platen with some drops of water.


MPC 2000 head assembly

MPC 2000 microscope

MPC 2000 digital micrometer display



14. Electrolytic Polishing and Etching

Electrolytic polishing profits by the following process: If two metal electrodes are submerged in an electrically conducting liquid under direct current, a flow of ions takes place from the anode to the cathode. Thus the metal atoms of the anode dissolve the electrolyte or deposits on the cathode. With electrolytic polishing, this process allows the raised areas of the sample surface, switched as anode, to be removed so that a polished surface will be obtained under certain conditions. The polishing process usually takes not more than 30 seconds thus saving considerable time compared with mechanical preparation. Electrolytic polishing is suitable for all homogeneous materials and alloys. Due to the varying potential differences between individual phases and/or components, heterogeneous alloys and compound materials are less suitable for electrolytic polishing/etching operations.

PoliMat 2 ..... 51 10 00
Fully automatic electropolishing and etching instrument
with separate power supply for polishing and etching
Safety controls for temperature control of the electrolyte and power
Corrosion resistant polishing cell with separate pump-motor
External etching device
230 V/ 50-60 Hz/1-phase, max. 1200 W
Polishing: 0-60V to 0-20A and/or 0-120V to 0-10A, etching: 0-15V to 0-2.5A
Dimensions: Controller 500 x 300 x 250 mm (WxDxH)
Electrolyte cell Ø 200 mm, height 320 mm, content 1000 mL
Weight: Polishing 22.5 kg, electrolyte cell 4 kg
Delivered:
complete as above with 4 masks (1 cm², 2 cm², 10 cm², blind-mask)
connecting cables and manual

Accessories
Polishing cell, complete 51 00 10
Electrolyte cell, 1000 mL 51 00 11
Lid with anode for electrolyte container 51 00 12
Set of Masks (4 pieces: 1 cm², 2 cm², 10 cm² and without hole) 51 01 00
External etching device comprising:
etching beaker and arms of stainless steel and cables 51 02 00

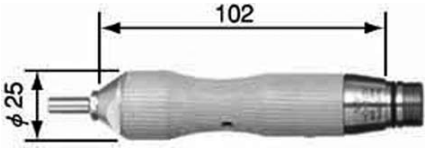
15. Portable Equipment

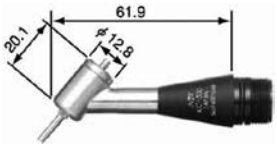
Electer-Set 1001 Portable grinding and polishing 53 00 15
to attach up to 2 grinding/polishing units (1 included)
Dimensions: 95 x 180 x 190 mm (WxDxH), 230 V/50-60 Hz, weight 2,0 kg
Including: power supply E-max, mains cable
one micro-motor NK-261 (1.000-27.000 rpm; 72W) with cable
reduction gear RG-01 for above micro-motor
angled handle IC-300 (90°) for above micro-motor NK-260

Electer-Set 1002 Portable grinding and polishing 53 00 18
as above (Electer-Set 1001), but additionally:
Micro-motor NK-151 (1.000-13.000 rpm, 97W) with cable
straight handle HG-200 for 6 mm adapters with clamping pin 13 10 05

Accessories
Transportation case for Electer-Set 53 00 19
Angled handle IC-300 (90°) for micro-motor NK-260 with 3 rubber carriers Ø 30 mm (52 02 00) 53 20 01
Angled handle KC-300 (45°) for micro-motor NK-260 with 3 rubber carriers Ø 30 mm (52 02 00)
for easier access in corners and angles 53 20 02
Straight handle HG-200 for 6 mm adapters 53 10 01
Micromotor NK-261 (1.000-27.000 rpm, 72W) with cable 53 00 11
Reduction gear RG-01 for micro-motor 53 00 02
Micromotor NK-151 (high torque, 1.000-13.000 rpm, 97W) with cable 53 00 13

1 Rubber carrier with velcro Ø 30 mm 52 01 10
to use with SiC paper P80 up to P240
1 Rubber carrier for PSA papers and cloth Ø 30 mm 52 01 00
to use with SiC paper P320 up to P1000 or polishing cloth





16. Miscellaneous Accessories

16.1. Laboratory Furniture

Table/Furniture for all table-top equipment
Universal table cabinet, stable construction, grey
1030 x 900 x 850 mm (WxDxH)
2 doors; 1 shelf for recirculating tank, 1 compartment with 2 trays 48-9999/1

Universal table cabinet, stable construction, grey
1030 x 900 x 850 mm (WxDxH)
2 doors; 1 shelf for recirculating tank, 1 compartment with 1 tray
1 drawer 150 mm high 48-9999/2

Universal table cabinet, stable construction, grey
1030 x 900 x 850 mm (WxDxH)
2 doors; 1 drawer 150 mm high 48-9999/3

16.2. Recirculating Systems and Sedimentation Tank

Recirculating systems for Cutters and for Grinder/polishers working independently from tap water.

UKE-II Recirculating system with swarf collector 56 00 15
for use with Cuto 20 and PowerMet 1000
Complete with container (60 L) filter basket, cover, hoses
Chassis and pump 3 x 400V/50Hz/3-phases
Dimensions: 600 x 400 x 325 mm (WxDxH)

UKE-F Recirculating system with fine filter 56 00 20
for use with grinder/polishers when no fresh water is available
sedimentation and filtering of abrasives
Complete with container (60 L) filter, cover, hoses
Chassis and pump 3 x 400V/50Hz/3-phases
Dimensions: 600 x 400 x 325 mm (WxDxH

UKE-L Recirculating system with fine filter 56 00 22
for universal use, large volume (sedimentation and filtering of abrasives)
Complete with container (90 L) filter, cover, hoses
Chassis and pump 3 x 400V/50Hz/3-phases
Dimensions: 600 x 400 x 425 mm (WxDxH)

UKE-DA Recirculating system with fine filter 56 00 23
for use with Delta AbrasiMet
Complete with container (60 L) filter, cover, hoses
Chassis and pump 3 x 400V/50Hz/3-phases
Dimensions: 600 x 400 x 325 mm (WxDxH)

UKE-D Recirculating system for Delta Cutter 56 00 24
Large volume (sedimentation and filtering of abrasives)
Complete with container (160 L) filter, cover, hoses
Chassis and pump 3 x 400V
Dimensions: 600 x 800 x 425 mm (WxDxH)

UKE-P3K Recirculating system for PowerMet 3000 10-2420-400
Complete with container (90 L) filter basket, cover, hoses
Chassis and pump 3 x 400V/50Hz/3-phases
Dimensions: 600 x 400 x 425 mm (WxDxH)

UKE-FS Recirculating system for PowerMet 6000/3000 10-2430-400
Complete with container (160 L), sloped filter, cover, hoses
Chassis and pump 3 x 400V/50Hz/3-phases

Sedimentation tank 82 63 15
for the disposal of abrasives from grinder-polishers
according to environmental regulations
Tank with 3 chambers, to be installed before the sewerage system
Volume per chamber: 18 L
Dimensions: 600 x 300 x 370 mm (WxDxH)
Connections: DN 50, material: PVC

16.3. Compressors

Compressor, 15 L 40 41 00-15
with compressed air regulating valve and quick-coupler
can be used with all equipment that operates with compressed air

Compressor, 25 L 40 41 00-25
with compressed air regulating valve and quick-coupler
ideal for when several machines have to be supplied with compressed air

Oil for compressor, 0.5 L 40 41 00-OIL

Air distribution device, 3 x 82 41 13
to connect with the compressor

16.4. Ultrasonic Cleaners and Accessories

Ultrasonic Cleaner RK 52 ..... 56 01 00
Stainless steel 1.8 L; inner dimensions: 150 x 135 x 100 mm (WxDxH)
Stainless steel lid 56 01 10
Stainless steel basket, inner dimensions: 120 x 110 x 40 mm (WxDxH) 56 01 20

Ultrasonic Cleaner RK 100H 56 02 00
Stainless steel 3.0 L; inner dimensions: 240 x 140 x 100 mm (WxDxH)
Stainless steel lid 56 02 10
Stainless steel basket, inner dimensions: 200 x 110 x 40 mm (WxDxH) 56 02 20

Ultrasonic Cleaner RK 106 ..... 56 03 06
Stainless steel 5.7 L; inner dimensions: 245 x 130 mm (ØxH)
Stainless steel lid 56 03 10
Stainless steel basket, inner dimensions: Ø 216 mm, H: 50 mm 56 03 20

16.5. Other Laboratory Accessories

Heatable magnetic stirrer 19 06 20
Rotation: 100-1400 rpm
Temperature up to 20-300°C
Volume: max. 3 L, 230V / 50 Hz

Contact thermometer for the magnetic stirrer 19 06 21
Electronic Thermometer
Stand and holder
Power supply with adapter

Precision hot plate 19 06 30
for gluing of thin sections with Lakeside Cement or Canada Balsam a.o.
Hot plate: 280x200 mm
Temperature range 20 to 300°C; power: 1.1 kW
Dimensions: 300 x 210 x 135 mm (WxDxH), 7 kg, 230V / 50 Hz

Specimen Dryer, for manual use, 1800 W 19 03 03

Specimen Dryer, for wall mounting with start button, 1400 W 19 03 01

Specimen Dryer, for wall mounting with automatic non-touch start, 1400 W 19 03 02

Vibratory engraver, incl. sintered carbide tip 19 00 00
Engraving system for sample identification

Sintered carbide tip for 19 00 00 ..... 19 00 01

Diamond tip for 19 00 00 ..... 19 00 02

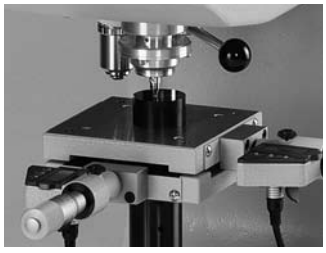
17. Hardness Testers

We supply Micro, Semi-Macro and Macro Hardness Testers (Vickers and Knoop) as well as Testers for Rockwell Hardness Testing
Buehler hardness testers fulfill all demands that are placed against modern hardness testers: accurate determination of the hardness values and simple operation, with digital models that feature an LCD screen, uniform menu guidance, available for MicroMet, MacroMet or MacroVickers models, standard measuring procedures according to DIN EN ISO 6507 (DIN 50133) for Vickers devices and DIN EN 10109 with the Rockwell models.

17.1. Vickers/Knoop Microindentation Hardness Testers

MicroMet 5101 1600-5101
Micro-Indentation Hardness Tester: Analog Tester with manual control
8 testloads: 10 gf to 1000 gf
10 gf (98.07mN) / 25 gf (245.2mN) / 50 gf (490.3mN) / 100 gf (980.7mN) / 200 gf (1961 mN)
300 gf (2942 mN) / 500 gf (4903 mN) / 1000 gf (9807 mN)
Manual revolver with two objectives: 10x/50x
and one indenter mounted (Vickers or Knoop Indenter)
Manual xy-stage 25 x 25 mm with analog screws

MicroMet 5103 1600-5112
Micro-Indentation Hardness Tester: Digital Tester with LCD-Console
8 testloads: 10 gf to 1000 gf
10 gf (98.07mN) / 25 gf (245.2mN) / 50 gf (490.3mN) / 100 gf (980.7mN) / 200 gf (1961 mN)
300 gf (2942 mN) / 500 gf (4903 mN) / 1000 gf (9807 mN)
Manual revolver with two objectives: 10x/50x
and one indenter mounted (Vickers or Knoop Indenter)
Manual xy-stage 25 x 25 mm with digital screws



MicroMet 5104 1600-5122
Micro-Indentation Hardness Tester: Digital Tester with LCD-Console
8 testloads: 10 gf to 1000 gf
10 gf (98.07mN) / 25 gf (245.2mN) / 50 gf (490.3mN) / 100 gf (980.7mN) / 200 gf (1961 mN)
300 gf (2942 mN) / 500 gf (4903 mN) / 1000 gf (9807 mN)
Motorized turret revolver with three objectives: 10x/20x/50x
and one or two indenter(s) mounted (Vickers and/or Knoop Indenter)
Manual xy-stage 25 x 25 mm with digital screws

MicroMet 5114 1600-5114
Micro-Indentation Hardness Tester: Digital Tester with LCD-Console
13 testloads: 1 gf to 2000 gf (1 - 25 gf with loadcell*)
1 gf (9.807 mN)* / 2 gf (19.61 mN)* / 3 gf (29.42 mN)* / 5 gf (49.03 mN)* / 10 gf (98.07mN)*
25 gf (245.2mN)* / 50 gf (490.3mN) / 100 gf (980.7mN) / 200 gf (1961 mN) / 300 gf (2942 mN)
500 gf (4903 mN) / 1000 gf (9807 mN)
Mechanical revolver with three objectives: 10x/50x/100x
and one indenter mounted (Vickers or Knoop Indenter)
Manual xy-stage 25 x 25mm with digital screws

MicroMet 5124 1600-5124
Micro-Indentation Hardness Tester: Digital Tester with LCD-Console
15 testloads: 0.5 gf to 2000 gf (0.5 - 25 gf with loadcell*)
0,5 gf (4.903 mN)* / 1 gf (9.807 mN)* / 2 gf (19.61 mN)* / 3 gf (29.42 mN)* / 4 gf (39.23 mN)*
5 gf (49.03 mN)* / 10 gf (98.07 mN)* / 25 gf (245.2 mN)* / 50 gf (490.3 mN) / 100 gf (980.7 mN)
200 gf (1961 mN) / 300 gf (2942 mN) / 500 gf (4903 mN) / 1000 gf (9807 mN) / 2000 gf (19614 mN)
Motorized turret revolver with three objectives: 10x/50x/100x
and one or two indenter(s) mounted (Vickers and/or Knoop Indenter)
Manual xy-stage 25 x 25 mm with digital screws

17.2. Vickers (Knoop) Hardness Testers – SemiMacro and Macro

SemiMacroVickers 5112 1900-5112
SemiMacroVickers Hardness Tester: Digital Tester with LCD-Console
8 testloads: 0.2 kgf to 20kgf
0,2 kgf (1,96 N) / 0,3 kgf (2,94 N) / 0,5 kgf (4,90 N) / 1 kgf (9,81 N)
3 kgf (29,42 N) / 5 kgf (49,04 N) / 10 kgf (98,07 N) / 20 kgf (196,1 N)
Motorized revolver turret with two objectives: 10x/20x and one indenter mounted (Vickers or Knoop Indenter)
Anvil, flat Ø 64 mm

MacroVickers 5114 1900-5114
MacroVickers Hardness Tester: Digital Tester with LCD-Console
8 testloads: 1 kgf to 50kgf
1 kgf (9,81 N) / 2 kgf /1,96 N)/ 3 kgf (29,42 N) / 5 kgf (49,04 N)
10 kgf (98,07 N) / 20 kgf (196,1 N)30 kgf (294,2 N) / 50 kgf (490,3 N)
Motorized revolver turret with two objectives: 10x/20x
and one indenter mounted (Vickers or Knoop Indenter)
Anvil, flat Ø 64 mm

17.3. Rockwell Testers

MacroMet 5100R 1800-5100R
Rockwell Tester
Digital tester with deadweight loading system
Minor load: 10 kgf, major load: 60/100/150 kgf
Flat anvil: Ø 60 mm and Ø 30 mm V-anvil
max. specimen height: 140 mm, specimen depth: 122 mm
Indenters: Rockwell cone for HRC, HRA and HRD-scale
and 1/16" ball for HRB, HRF and HRG-scale

MacroMet 5100T 1800-5100T
Twin Tester: Rockwell and Superficial Rockwell
Digital tester with deadweight loading system
Minor load: 3/10 kgf, major load:10/30/45/60/100/150 kgf
Flat anvil: Ø 60 mm and Ø 30 mm V-anvil
max. specimen height: 140 mm, specimen depth: 122 mm
Indenters: Rockwell cone for HRC, HRA HRD and HRN-scale
and 1/16" ball for HRB, HRF HRG and HRT-scale

MacroMet 5101R 1800-5101R
Rockwell Tester
Digital tester with deadweight loading system
Minor load: 10 kgf, major load: 60/100/150 kgf
Flat anvil: Ø 60 mm and Ø 30 mm V-anvil
max. specimen height: 320 mm, specimen depth: 122 mm
Indenters: Rockwell cone for HRC, HRA and HRD-scale
and 1/16" ball for HRB, HRF and HRG-scale

MacroMet 5101T 1800-5101T
Twin Rockwell Tester: Rockwell and Superficial Rockwell
Digital tester with deadweight loading system
Minor load: 3/10 kgf, major load:10/30/45/60/100/150 kgf
Flat anvil: Ø 60 mm and Ø 30 mm V-anvil
max. specimen height: 280 mm, specimen depth: 122 mm
Indenters: Rockwell cone for HRC, HRA HRD and HRN-scale
and 1/16" ball for HRB, HRF HRG and HRT-scale

MacroMet 5121 1800-5121
Twin Tester: Rockwell and Superficial Rockwell
Digital tester with closed loop loadcell technology
Minor load: 3/10 kgf, major load:10/30/45/60/100/150 kgf
Flat anvil: Ø 60 mm and Ø 30 mm V-anvil
max. specimen height: 205 mm, specimen depth: 150 mm
Indenters: Rockwell cone for HRC, HRA HRD and HRN-scale
and 1/16" ball for HRB, HRF HRG and HRT-scale

Overview Rockwell-Scales		
Rockwell Scale	**Indenter**	**Load**
HRA	Diamond	60 kg
HRB	1/16" Ball	100 kg
HRC	Diamond	150 kg
HRD	Diamond	100 kg
HRE	1/8" Ball	100 kg
HRF	1/16" Ball	60 kg
HRG	1/16" Ball	150 kg
HRH	1/8" Ball	60 kg
HRK	1/8" Ball	150 kg
15 N	Diamond	15 kg
30 N	Diamond	30 kg
45 N	Diamond	45 kg
15 N	1/16" Ball	15 kg
30 N	1/16" Ball	30 kg
45 N	1/16" Ball	45 kg

17.4. IndentaMet Vickers/Knoop Testers

17.4.1. IndentaMet Micro-Indentation Hardness Testers

IndentaMet 1104..... 1600-1104
Micro-Indentation Hardness Tester: Digital Tester
with manual revolver turret and photo port
8 testloads: 10 / 25 / 50 / 100 / 200 / 300 / 500 / 1000 gf
Two objectives: 10x/40x and one indenter mounted (Vickers or Knoop Indenter)
Max. specimen height: 90 mm, max. specimen depth: 110 mm
Manual xy-stage 25 x 25mm with analog screws

IndentaMet 1105*..... 1600-1105
Micro-Indentation Hardness Tester: Digital Tester
with automatic revolver turret and photo port
8 testloads: 10 / 25 / 50 / 100 / 200 / 300 / 500 / 1000 gf
Two objectives: 10x/40x and one indenter mounted (Vickers or Knoop Indenter)
Max. specimen height: 90 mm, max. specimen depth: 110 mm
Manual xy-stage 25 x 25mm with analog screws

IndentaMet 1106*..... 1600-1106
Micro-Indentation Hardness Tester: Digital Tester
with automatic revolver turret, auto D1/D2 turret and photo port
8 testloads: 10 / 25 / 50 / 100 / 200 / 300 / 500 / 1000 gf
Two objectives: 10x/40x and one indenter mounted (Vickers or Knoop Indenter)
Max. specimen height: 90 mm, max. specimen depth: 110 mm
Manual xy-stage 25 x 25mm with analog screws

** Also available as dual indenter (Vickers and Knoop) models /1600-1105D and 1600-1106D).*
IndentaMet 1104 / 1105 / 1106 can be equipped with up to two more objectives. This option has to be factory installed and ordered together with the tester. Only one objective (normally 40x) can be used for measuring with the eyepiece.
If other objectives are needed for measuring, OmniMet MHT-M should be ordered together with the tester.

17.4.2. IndentaMet SemiMacro Hardness Testers

IndentaMet 1114..... 1900-1114
Semi-MacroVickers Hardness Tester: Digital Tester
with manual revolver turret and photo port
8 testloads: 0.3 / 0.5 / 1 / 3 / 5 / 10 / 20 / 30 kgf
Two objectives: 10 x/20 x and one indenter mounted (Vickers or Knoop Indenter)
Max. specimen height: 200 mm, max. specimen depth: 160 mm
Anvil, flat Ø 64 mm

IndentaMet 1116..... 1900-1116
Semi-MacroVickers Hardness Tester: Digital Tester
with automatic revolver turret and photo port
8 testloads: 0.3 / 0.5 / 1 / 3 / 5 / 10 / 20 / 30 kgf
Two objectives: 10x/20x and one indenter mounted (Vickers or Knoop Indenter)
Max. specimen height: 200 mm, max. specimen depth: 160 mm
Anvil, flat Ø 64 mm

IndentaMet 1117..... 1900-1117
Semi-MacroVickers Hardness Tester: Digital Tester
with automatic revolver turret and photo port
8 testloads: 0.2 /0.3 / 0.5 / 1 / 2 / 3 / 5 / 10 kgf
Two objectives: 10x/40x and one indenter mounted (Vickers or Knoop Indenter)
Max. specimen height: 200 mm, max. specimen depth: 160 mm
Anvil, flat Ø 64 mm

Accessory

XY-stage, 25 x 25 mm travel distance for IndentaMet-series with analogue micrometers..... 1600-1165
100x100 mm surface, max. 80 kgf load

XY-stage, 50 x 50 mm travel distance for IndentaMet-series with analogue micrometers..... 1600-1171
110x110 mm surface, max. 80 kgf load

XY-stage, 50 x 50 mm travel distance for IndentaMet-series with analogue micrometers..... 1600-1172
200x200 mm surface, max. 80 kgf load

Stage adapter for mounting XY-stage to spindle 1600-1168

17.4.3. IndentaMet Macro Hardness Testers

IndentaMet 1124 1950-1124
MacroVickers Hardness Tester: Digital Tester
with manual revolver turret and photo port
8 testloads: 1 / 2 / 3 / 5 / 10 / 20 / 30 / 50 kgf
One objective: 10x and one indenter mounted (Vickers or Knoop Indenter)
Max. specimen height: 200 mm, max. specimen depth: 160 mm
Anvil, flat Ø 64 mm

IndentaMet 1125 1950-1125
same as IndentaMet 1124 but with insert for an additional objective

IndentaMet 1126 1950-1126
MacroVickers Hardness Tester: Digital Tester
with automatic revolver turret and photo port
8 testloads: 1 / 2 / 3 / 5 / 10 / 20 / 30 / 50 kgf
One objective: 10x and one indenter mounted (Vickers or Knoop Indenter)
Max. specimen height: 200 mm, max. specimen depth: 160 mm
Anvil, flat Ø64 mm

IndentaMet 1127 1950-1127
same as IndentaMet 1126 but with insert for an additional objective

Accessory

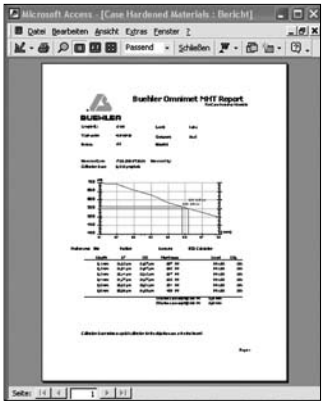
XY-stage, 25 x 25 mm travel distance for IndentaMet-series with analogue micrometers 1600-1165
100x100 mm surface, max. 80 kgf load

XY-stage, 50 x 50 mm travel distance for IndentaMet-series with analogue micrometers 1600-1171
110x110 mm surface, max. 80 kgf load

XY-stage, 50 x 50 mm travel distance for IndentaMet-series with analogue micrometers 1600-1172
200x200 mm surface, max. 80 kgf load

Stage adapter for mounting XY-stage to spindle 1600-1168

17.5. OmniMet MHT Computer-assisted Test Systems (Vickers and Knoop)



The computer-controlled hardness test systems from the OmniMet MHT series allow you to accomplish hardness tests with computer control and less user involvement. For producing a series of measurements, you must define only the desired test and/or load sequence and then position the sample. For this you move the sample with the joystick on the control console to the zero point of the series of measurements (Sample edge or arbitrary starting position). You can observe and find the position comfortably from the live image of the video camera on the computer monitor. Afterwards you give the measuring direction, by turning an arrow on the screen in the desired direction. Setting the indents takes place afterwards fully automatically with the help of the stepping motor-driven scanning stage. The accurate determination of the hardness values takes place afterwards either fully automatically via the image analysis program or interactively via the use of measuring tools with the mouse. The report and graphic evaluation of the measurements is done simply via one click on an icon.

Calculation of the Case Hardness Depth according to DIN EN ISO 2639, statistical data calculation. Warning message, when the measured diagonals differ by more than 5% (or a user defined value). Conversion of the measurement data according to Rockwell scales. Display of more than one hardness profile in one diagram. 8 fixed and 19 freely definable datafields for entry of specimen identification information, free definition of the report format. Data can be exported to MS-Access, MS-Excel or MS-Word. Database for settings and measurements (long term storage, ability to "sign off" cases, search for results, quick view of diagrams etc). Free "Sample Viewer" software for reviewing measurements within a network environment.

OmniMet MHT fully automatic system, basic configuration 88-7000
delivered with:
Computer, software, digital camera (monochrome)
3-axis controller board with joystick
AF-Kit for microindentation hardness testers

System has to be completed with:
- Hardness tester MicroMet 5104, other testers on request
- Scanning stage, choose from the list below.

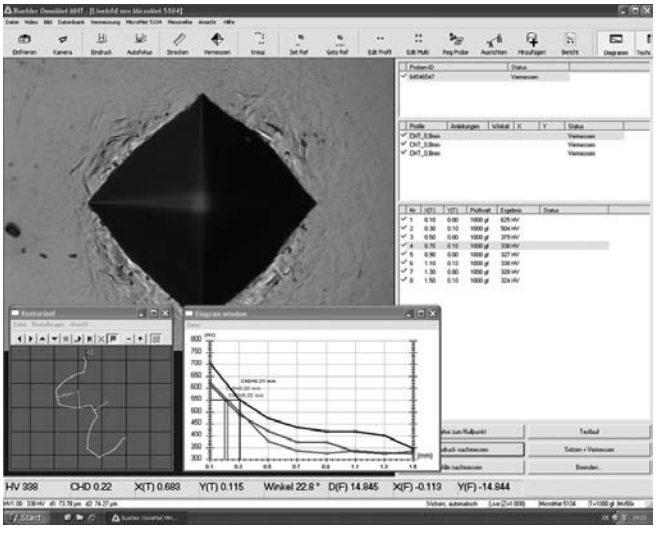
OmniMet MHT semi-automatic system, basic configuration 88-7500
delivered with:
Computer, software, digital camera (monochrome)
2-axis controller board with joystick

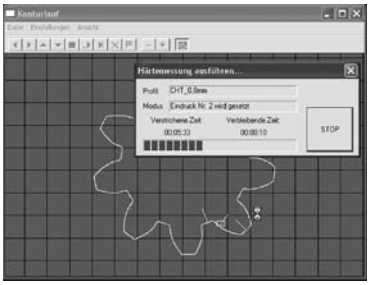
System has to be completed with:
- Hardness tester MicroMet 5103, SemiMacroVickers 5112, MacroVickers 5114
  other testers on request
- Scanning stage, choose from the list below

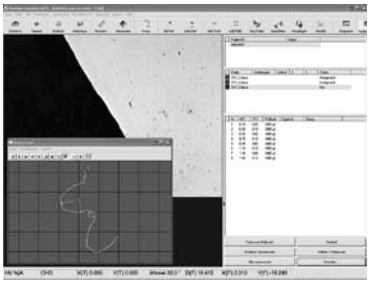
Scanning stages for OmniMet MHT

50 x 50 mm scanning stage, for micro indentation, max. HV 5 88-7050
100 x 100 mm scanning stage, for micro indentation, max. HV 5 88-7100
200 x 100 mm scanning stage, for micro indentation, max. HV 5 88-7200
50 x 50 mm scanning stage, for macro indentation, max. HV 50 88-6300

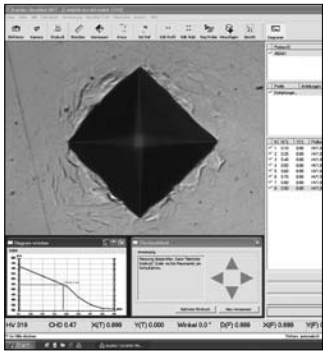
OmniMet MHT can be delivered as a retrofit to existing hardness testers, including Semi-MacroVickers and MacroVickers testers. If you do not have a Buehler hardness tester, please contact your dealer for details and availability of the retrofit for your tester.



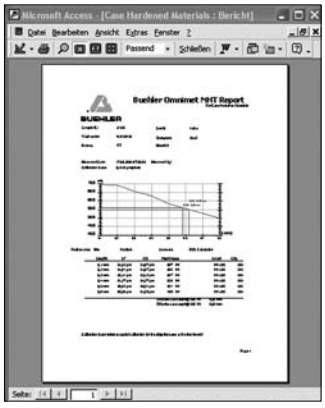




17.6. OmniMet MHT-M Indentation Measuring System



OmniMet MHT-M is a user friendly program for hardness indentation measurement from the monitor of your computer. Measurement and documentation of Vickers and Knoop indentations can be done automatically by image analysis, or by the operator moving the measuring lines with the mouse. Along with individual measurement of single indents, profiles can be generated. The fully-automatic measurement guarantees reproducable and operator-independent measurement results. Fatigue-free operation and reproducibility of measurement results.
A pre-condition for installing the system is the connection of a video camera to the hardness tester. Set-up and administration of the operation and report writing can be done with a few mouse-clicks. Graphic display of the hardness values, results diagram displayed during the measurement. Free definition of the measurement profile (line, zig-zag or irregular)
Calculation of the Case Hardness Depth according to DIN EN ISO 2639, statistical data calculation. Warning message, when the measured diagonals differ by more than 5% (or a user defined value). Conversion of the measurement data according to Rockwell scales.
Display of more than one hardness profile in one diagram. 8 fixed and 19 free definable datafields for entry of specimen identification information, free definition of the report format. Data can be exported to MS-Access, MS-Excel or MS-Word.
Database for settings and measurements (long term storage, ability to "sign off" cases, search for results, quick view of diagrams etc).
Free "Sample Viewer" software for reviewing measurements within a network environment.
Optional: Position of the stage can be included in the report (requires digital micrometers).



OmniMet MHT-M 88-7600
Hardness Indentation Measuring Software consists of
Software on CD incl. MIL 7.5 Lite

Minimum computer specification:
min. P4 processor(or equivalent), 512 MB RAM, better 1 GB
AGP or PCIe graphic-card
26 MB free space on the hard disk
USB 2.0 port for UI digital camera
One free COM-Port in case of using a Buehler 5100 digital hardness tester
Operating System: Windows XP or Windows 7

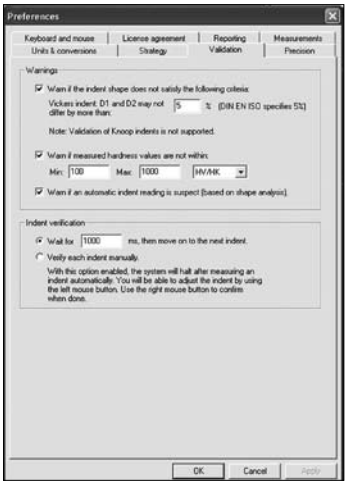
Accessories for OmniMet MHT-M

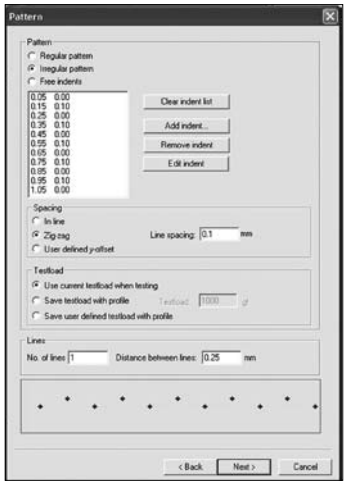
UI Digital cameras ..... see section 21.

Digital micrometer to substitute analogue micrometer of xy-stage, 25 mm travel distance 1590-0101
Digimatic Interface for connection of up to 2 digital micrometers to USB-port of PC 1590-0201
Digimatic cable 2 m for connection of digital micrometer to 1590-0200 (round connector) 1590-0210
Digimatic cable 2 m for connection of digital micrometer to 1590-0200 (rectangular connector)..... 1590-0211
Serial cable for control of testers 5100-series via PC/software 1600-6503

TV-adapter with C-Mount for MicroMet / MacroVickers.....1600-H352
TV-adapter with C-Mount for IndentaMet.....1600-H353

OmniMet MHT-M can be used together with most hardness testers.
The only requirement to use OmniMet MHT-M is the possibility to connect a video camera to your tester. Please contact your dealer for details.


Preferences
Keyboard and mouse
License agreement
Reporting
Measurements
Units & conversions
Strategy
Validation
Precision
Warnings
Warn if the indent shape does not satisfy the following criteria:
Vickers indent: D1 and D2 may not differ by more than:
(DIN EN ISO specifies 5%)
Note: Validation of Knoop indents is not supported.
Warn if measured hardness values are not within:
Min:
Max:
HV/HK
Warn if an automatic indent reading is suspect (based on shape analysis).
Indent verification
Wait for
ms, then move on to the next indent.
Verify each indent manually.
With this option enabled, the system will halt after measuring an indent automatically. You will be able to adjust the indent by using the left mouse button. Use the right mouse button to confirm when done.
OK
Cancel
Apply



17.7. Accessories for Hardness Testers

Vises and clamping devices

Self Levelling Vise for round mounted samples, without insert 88-6168
4x Self Levelling Vise for round mounted samples, without insert 88-6169

Insert Ø 25mm/1" for above mentioned self levelling vise 88-6170
Insert Ø 30mm for above mentioned self levelling vise 88-6171
Insert Ø 40mm for above mentioned self levelling vise 88-6172
Insert Ø 1¼" for above mentioned self levelling vise 88-6173
Insert Ø 1½" for above mentioned self levelling vise 88-6174

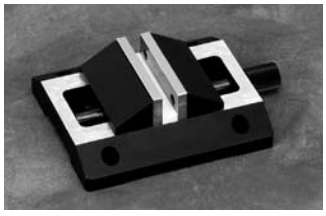
Self Levelling Vise for round mounted samples Ø 50 mm 88-6176
4x Self Levelling Vise for round mounted samples Ø 50 mm 88-6175

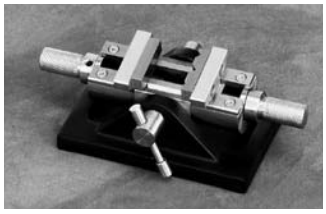
Self Levelling Vise (finger style) 1600-2396

Universal Precision Vise (max 50 mm capacity) 1600-1155
Universal Precision Vise (max 45 mm capacity) ..... (810-016) 1600-2254
Universal Precision Vise (max 100 mm capacity) 1600-2255

Universal Inclining Holder with tilt control 1600-1151

Clamping Device for thin materials (up to 5 mm) 1600-2251
Vertical Wire Vise 1600-2257
Horizontal Wire Vise (0,1-4 mm) 1600-2259
Rotary Vise Adapter (to be used with vises) 1600-2261



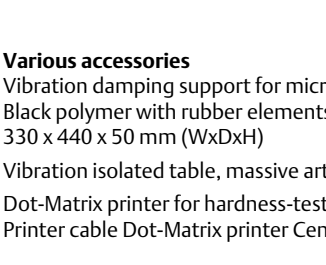


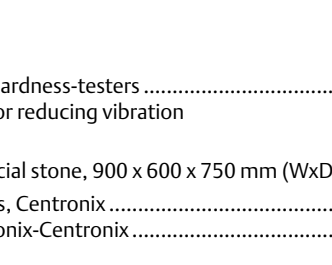
XY stages and anvils

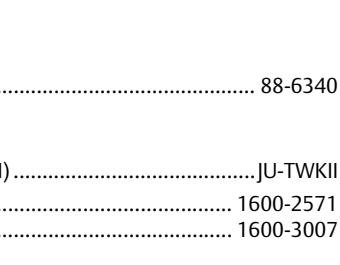
XY-stage, 25 x 25 mm travel distance for 5100-series with 2 Digimatic-micrometers 810-096
XY-stage, 25 x 25 mm travel distance for 5100-series with 2 analog micrometers 810-011

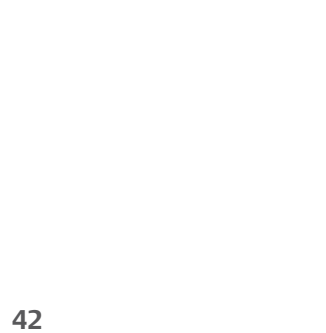
XY-stage, 25 x 25mm travel distance with analog micrometers 1600-2250
XY-stage, 50 x 50mm travel distance with analog micrometers, 50 kgf testload capacity 1900-2248
Stage adapter for MacroVickers and MacroMet (models 2002 and older) 1600-2247

Anvil, Large V-Shape 1600-2397
Anvil, Small V-Shape 1600-2399









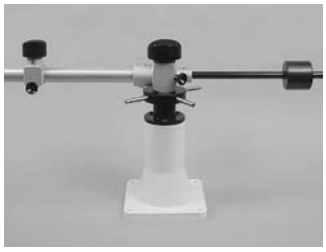
Various accessories

Vibration damping support for microhardness-testers 88-6340
Black polymer with rubber elements for reducing vibration
330 x 440 x 50 mm (WxDxH)

Vibration isolated table, massive artificial stone, 900 x 600 x 750 mm (WxDxH) ..... JU-TWKII

Dot-Matrix printer for hardness-testers, Centronix 1600-2571
Printer cable Dot-Matrix printer Centronix-Centronix 1600-3007

17.8. Accessories for MacroMet hardness testers



Accessories and Spare parts for MacroMet

Rockwell Indenter 120° for C, D, A and N Scales on MacroMet 5100 series 1800-1010
Rockwell Ball Indenter 1/16" (incl. sintered carbide ball), for MacroMet 5100-Series 19BAA076
Rockwell Ball Indenter 1/8" (incl. sintered carbide ball), for MacroMet 5100-Series 19BAA076
Rockwell Ball Indenter 1/4" (incl. sintered carbide ball), for MacroMet 5100-Series 19BAA077
Rockwell Ball Indenter 1/2" (incl. sintered carbide ball), for MacroMet 5100-Series 19BAA078

Rockwell Indenter 120° for MacroMet 3100 and before 1700-1015
Rockwell Ball Indenter 1/16" for MacroMet 3100 and before 1700-1020

Anvil, flat 60mm (2.4") diameter 1700-1040
Anvil, spot metric 1700-1041
Anvil, Small V-Shape 10 mm diameter 1700-1043
Anvil, Round Table, 200 mm diameter 1700-1044
Anvil, Diamond Spot 1700-1046
Anvil, 3/16" Taper Spot 1700-1047
Anvil, V-Shape 90mm (3.5") diameter 1700-1048
Anvil, Extension Rest 1700-1091
Jack Rest for 1800-5101 Testers 1700-1094

17.9. Indenters Vickers, Knoop, Rockwell, Brinell

Traceable Indenters with a certificate of UKAS/United Kingdom

Vickers Indenter for MacroVickers 5100 series 1600-9200
Knoop Indenter for MacroVickers 5100 series 1600-9201

Vickers Indenter for Semi- and MacroVickers 5100 series 1600-9300
Knoop Indenter for Semi- and MacroVickers 5100 series 1600-9301

Vickers Indenter for MicroMet 2100 series and earlier models 1600-9100
Knoop Indenter for MicroMet 2100 series and earlier models 1600-9101

Vickers Indenter for Semi- and MacroVickers 2100 series and earlier models 1600-9120
Knoop Indenter for Semi- and MacroVickers 2100 series and earlier models 1600-9121

Vickers Indenter for IndentaMet Microindentation series 1600-1159
Knoop Indenter for IndentaMet Microindentation series 1600-1160

Vickers Indenter for IndentaMet Semi- and MacroVickers series 1600-1169
Knoop Indenter for IndentaMet Semi- and MacroVickers series 1600-1170

Special Indenters for MicroMet 5100 series

Light Load Vickers Indenter for MicroMet 5114 1600-3202
Light Load Knoop Indenter for MicroMet 5114 1600-3203

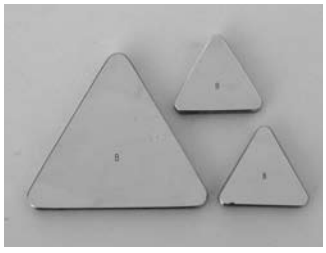
Special Indenters for Semi- and MacroVickers 5100 series

Brinell-Indenter with Hard metal ball 1mm Ø ..... (19BAA277) 1600-3209

Rockwell balls

Rockwell sintered carbide balls (5 pieces), Ø 1/16" 1700-1130
Rockwell sintered carbide balls (5 pieces), Ø 1/8" 1700-1131
Rockwell sintered carbide balls (5 pieces), Ø 1/4" 1700-1132
Rockwell sintered carbide balls (5 pieces), Ø 1/2" 1700-1133

17.10. Hardness Calibration Test Blocks



Tracable Hardness Calibration Test Blocks with a certificate of MPA Dortmund/Germany* (Validity of calibration: 5 years)

Micro-Vickers (steel/triangular plate with 35 mm side-length, 6 mm thick) HV 0.005 to HV 10 740100
Micro-Knoop (steel/triangular plate with 35 mm side-length, 6 mm thick) HK 0.005 to HK 2 740101
Macro-Vickers (steel/triangular plate with 70 mm side-length, 6 mm thick) HV 1 to HV 150 740102
Rockwell, all scales (steel/square 60 x 60 x 16 mm) 740113
Brinell/HBW (steel/square 100 x 100 x 16 mm) 5/10 mm ball 740104
Brinell/HBW (steel/triangular plate with 70 mm side-length, 6 mm thick), 2,5 mm ball 740116
Brinell/HBW (steel/triangular plate with 70 mm side-length, 6 mm thick), polished, 1 mm ball 740105
Macro-Vickers (aluminium/square 75 x 75 x 16 mm) HV 60, HV 80, HV 100 740107
Macro-Knoop (aluminium/square 75 x 75 x 16 mm) HV 60, HV 80, HV 100 740106
Rockwell, all scales (aluminium/square 75 x 75 x 16 mm) 740108
Brinell/HBW (aluminium/rectangel 150 x 100 x 16 mm), 5/10 mm ball 740115
Brinell/HBW (aluminium/square 75 x 75 x 16 mm), 2,5 mm ball 740114

Additional test certificate for testblocks 740110

** please specify your needed Calibration Test Block as follows:*
Testload and Hardness of the Block (e.g. 560HV2, where 560 is the hardness value and 2 refers to the Testload of 2 kgf) or Rockwell-Scale and Hardness
Calibration Test Blocks made of Ceramics on request!

17.11. Accessories for Hardness Testers

Accessories and spare parts for Semi- and MacroVickers 5100 series and IndentaMet

Bulb 12V/50W Spare Bulb for Model-Series MicroMet/MacroVickers 5100 0718-0116
Pototube, without c-mount(19BAA134) for 5100 series..... 99-40197
Serial cable for data transfer from testers 5100-series to PC..... 1600-6503

Objective for MicroMet 5100 series or MacroVickers 5100

Objective MPL 1.5x/0.045, M-PlanAchromatic..... MUL00020
Objective MPL 2.5x/0.075, M-PlanAchromatic..... MUL00030
Objective MPL 5x/0.10, M-PlanAchromatic (1900-5105)..... MUL00050
Objective MPL 10x/0.25, M-PlanAchromatic..... 1900-5110
Objective MPL 20x/0.40, M-PlanAchromatic..... 1900-5120
Objective MPL 50x/0.75, M-PlanAchromatic..... 1900-5150
Objective MPL100x/0.90, M-PlanAchromatic (1900-5100)..... MUL00900
Insert for another objective, MicroMet 5100-series 19BAA158-2

Accessories and spare parts for MicroMet 2100 series

Bulb 12V/18W Spare Bulb for Model-Series MicroMet 2100 1600-2355
Bulb 4.5V/17W Spare Bulb for Model-Series MicroMet 2000 1600-2354
Bulb 6.0V/18W Spare Bulb for Model-Series MicroMet 1 1600-2352

Objective for MicroMet 2100 and 2000 series or MacroVickers 2100

Objective M 10x, Achromatic..... 1600-2331
Objective M 20x, Achromatic..... 1600-2332
Objective M 40x, Achromatic..... 1600-2333
Objective M Plan100x (dry), Achromatic..... 1600-2334
Eyepiece 15x..... 1615-0100

Accessories and Spare parts for Semi- and MacroVickers 2100 series

Bulb 12 V/18W, Spare Bulb for Model-Series MacroVickers 2100 and earlier models 1700-1052E

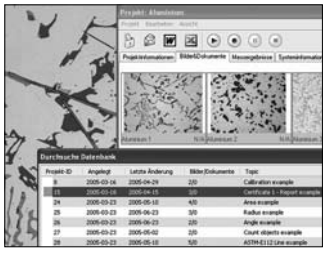
Various vices

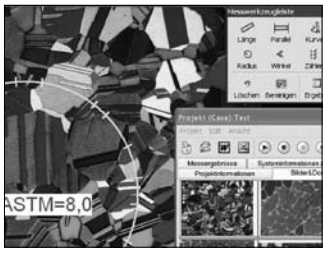
Self levelling vice, with inch-inserts..... 1600-2410
including:
Self levelling vice..... 2008-S400
Insert 1" (25,4 mm)..... 2008-S406
Insert 1,25" (31,8 mm)..... 2008-S407
Insert 1,5" (38,2 mm)..... 2008-S408

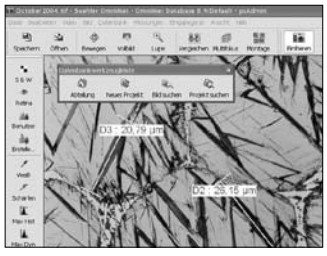
Self levelling vice, with metric-inserts 1600-2411
including:
Self levelling vice..... 2008-S400
Insert 50 mm 2008-S409
Insert 30 mm 2008-S410
Insert 40 mm 2008-S411

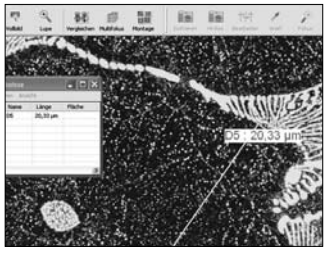
18. Image Analysis and Image Storage

18.1. OmniMet 9.x – Modular Image Storage and Document Management System









Version 9 of the OmniMet software is a fully modular system that sets the standard for image capture and analysis. It can be sold as a complete turnkey solution or as software only. Select from Buehlers pre-defined software packages, or create your own custom system by picking individual modules to fit your application and budget. OmniMet 9 includes a fully flexible database with the ability to store documents as well as both written and vocal annotation with your images and reports. The system allows you to add new modules as and when your needs expand. The software supports any DirectShow (WDM) compatible camera as well as the majority of analogue cameras, if a frame-grabber is installed.

OmniMet 9.x Capture N' Measure 86-2090
The package for image capture, archiving and report generation,
with basic measurement functions. Without database administration.
Measuring functions: length, parallel lines, curves, area+perimeter, radius, angle, count.
Results can be burnt into the image,but no storage of the results within the database, no export to Excel
Annotations: line, arrow, freehand line, text, rectangular, ellipse, hotspot, ruler

Includes the following modules:
OmniMet Software + OmniMet Capture

OmniMet 9.x Capture Lite..... 86-2099
The minimum software required for image capture, image calibration,
archiving and report generation, with basic measurement functions.
Without Database administration.
Software contains a simple MS-Access database for image and document-archiving
No. of systemfields are give, naming of the fields is variable
Measuring functions: length, parallel lines, curves, area+perimeter, radius, angle, count.
Results can be burnt into the image,but no storage of the results within the database, no export to Excel
Annotations: line, arrow, freehand line, text, rectangular, ellipse, hotspot, ruler

Includes the following modules:
OmniMet Software + OmniMet Capture + OmniMet Database

OmniMet 9.x Capture Basic 86-2100
This software package adds database administration to the image capture,
image calibration, archiving, report generation and basic measurement functions.
Measuring functions: length, parallel lines, curves, area+perimeter, radius, angle, count.
Results can be burnt into the image,but no storage of the results within the database, no export to Excel
Annotations: line, arrow, freehand line, text, rectangular, ellipse, hotspot, ruler
Compare images: store up to 20 images in a gallery and compare them with the live image

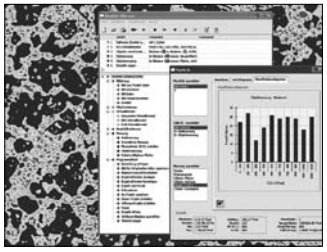
Includes the following modules:
OmniMet Software + OmniMet Capture + OmniMet Database
+ OmniMet Database Administration

OmniMet 9.x Capture Advanced 86-4100
The advanced software package includes image capture, image calibration,
archiving, report generation, manual interactive measurements and database administration
Measuring functions: length, parallel lines, curves, area+perimeter, radius, angle, count.
Results are dispayed in a result window and can be stored within the database, export to Excel
Annotations: line, arrow, freehand line, text, rectangular, ellipse, hotspot, ruler
Compare images: store up to 20 images in a gallery and compare them with the live image

Includes the following modules:
OmniMet Software + OmniMet Capture + OmniMet Database
+ OmniMet Database Administration
+ OmniMet Interactive Measurements Module

18.2. OmniMet 9.x Image Analysis and Image Storage

OmniMet Enterprise and OmniMet Express are Image analysis systems designed for the needs of modern materials research and quality control laboratories. Both systems can be used for grey- and color image analysis. OmniMet Epress provides simple "push button" access to standard metallographic analysis applications. Choose out of a range of ready made application routines. Within a few mouse clicks (load image - open routine - start routine - transfer results to Word) you can generate a report with quantitative measurements. OmniMet Enterprise allows to create your own routines with a powerful and easy-to-use routine-builder.OmniMet Enterprise provides a powerful library of funtions for Image processing and binary operations as well as numerous measuring parameters for object- and field-measurement. Both systems have integrated image database and manual measurement capabilities.

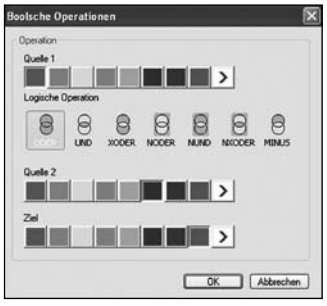


OmniMet 9.x Enterprise Image analysis system 86-1005
For quantitative investigation of material structure:
Metallic and non-metallic materials
System complete with workstation and software-package
Monitor and video camera to be ordered separately.

OmniMet 9.x Enterprise Image analysis software 87-1002

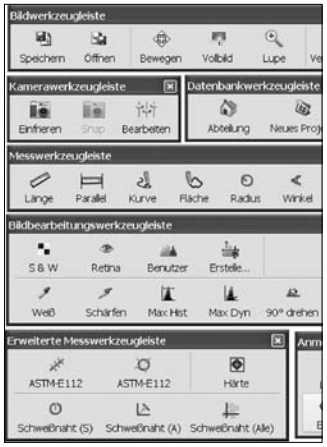
OmniMet 9.x Express Push Button image analysis system 86-3001
Image analysis system for user-specific routines
The routine(s) must be ordered separately
System complete with workstation and software-package
Monitor and video camera to be ordered separately.

OmniMet 9.x Express Push Button image analysis software 87-3005



Express-Modules OmniMet Express or OmniMet Enterprise image analysis system
One Buehler-built routine customized to client's specifications 86-3010
Manual Interactive Line Draw with Length Measure Lines. *86-3050
Grain Sizing to ASTM E112, ASTM E930, ASTM E1181 ..... *86-3100
Phase Area and Area Percent to ASTM E562 ..... *86-3200
Coating Layer Thickness to ASTM B487 ..... *86-3300
Decarburization Depth 86-3350
Nodularity in Cast Iron *86-3400
Particle Size Analysis *86-3500
Cleanliness Assessment, ISO 4406 86-3525
Porosity Assessment *86-3550
Microhardness Testing following ASTM E384 86-3600
Banding in Structure 86-3700
Dendritic Arm Spacing *86-3750
Inclusion Rating to ASTM E1245 86-3850
Package of 8 common metallographic applications (marked with *) 86-3900
(already included in OmniMet Enterprise-System)

All of these systems can be supplied as software only or as complete workstations. The workstations are supplied with operating system Windows 7 and MS-Office. The current specification of the computer hardware as well as the software can be modifed on request. Changes of the hardware equipment also on request. All systems can be equipped with digital or conventional video cameras. Hardware options such as printers or mass storage are available on request.
Optional on OmniMet Enterprise and OmniMet Express:
Automatic stage and stage controller with microscope adapters

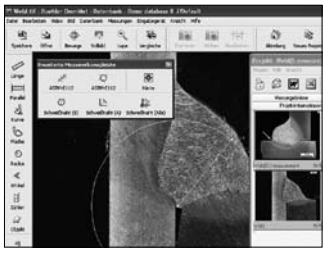


18.3. OmniMet - Modules

OmniMet Viewer 86-2200
This module allows network users to easily view stored images, databases
and measurements as made by other OmniMet operators.
It also allows basic measurement functions, image annotation,
the addition of a scale bar and the ability to print images and reports.
Includes the following modules:
OmniMet Software + OmniMet Database

OmniMet Database 86-2115
Database functionality, create databases from a set of templates
reporting functionality

OmniMet Database Administation 86-2120
Add/modify custom fields to database and change storage settings

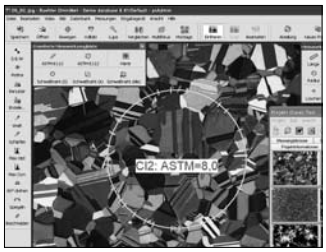


OmniMet Interactive Measurement 86-4105
Measurement data are displayed in a results window, results can be saved within the database
and be exported to Excel
Adds the ability to determine radius, curve length and angle as well as an object counting tool

OmniMet Object Measurements 86-4110
Automated "single phase" image analysis: area fraction, area,
position of the object, number of objects, perimeter, compactness, length,
feret diameter, centre of gravity, inclusion and exclusion of objects by various parameters

OmniMet Weld 86-4115
Interactive weld measurement tool

18.3. OmniMet - Modules (continued)



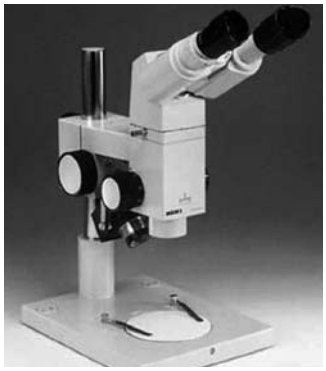
OmniMet Hardness 86-4120
Interactive hardness measurement tool (Vickers und Knoop)

OmniMet Grain Size 86-4125
Interactive grain size measurement tool to ASTM E112

OmniMet MultiFocal 86-4130
Reconstruction of a sharp picture from several image planes

OmniMet Mosaic 86-4140
Join several images together into a montage , for the overview of large areas

19. Macroscope, Video and Microscope Accessories



19.1. ZoomMacroscope

Buehler ZoomMacroscope 5:1 ..... 58 00 50
Advantage against stereo microscopes: perpendicular path of the light
Ideal for image analysis and archiving
Magnifications: 8x; 10x; 12,5x; 16x; 20x; 25x; 32x; 40x
Photo/TV-Tube 30° with TV-adapter 0.63x (c-mount)
Column 600 mm
Size for ring light D= 66 mm

Buehler ZoomMacroscope 5:1 ..... 58 00 53
body without binocular, for adaptation to a video copy stand
Magnifications: 8x; 10x; 12,5x; 16x; 20x; 25x; 32x; 40x
Photo/TV-Tube 30° with TV-adapter 0.63x (c-mount)

Objective lens 0.25x for ZoomMacroscope, magnification 2x.bis 10x, WD 280 mm 58 00 51
Objective lens 0.5x for ZoomMacroscope, magnification 4x.bis 20x, WD 150 mm 58 00 52

Adaption of Buehler ZoomMacroscope to video copy stand #58 00 33 ..... 58 00 55

TV-Adapter 0.63x for Buehler ZoomMacroscope (1/2" Chip) 58 00 56
TV-Adapter 1x for Buehler ZoomMacroscope (all Chip-sizes) 58 00 57

19.2. LED Ringlight

LED ringlight Ø 66 mm, 72 LED's, Incl. diffusion plate with controller (RS232C) 58 00 60
Colour temperature 6000° Kelvin (daylight), 162000 Lux

19.3. Lenses with C-Mount

Zoom lens 10-40 mm, F1.4 with C-Mount (for Megapixel cameras, 1/2" Chip and smaller) 58 00 22

Other objectives for digital or analogue cameras on request.

19.4. Video Copy Stands

Standard video copy stand RS2XA with 745 mm column, base 470 x 500 mm (WxD) 58 00 30
Illumination RB260 digital with two illuminators 11W, 6000 K 58 00 31
Lamps 11W for illumination RB260 ..... 58 00 32

Premium video copy stand RS1 with reproarm RA1, 1000 mm column, base 450 x 500 mm (WxD) 58 00 33
Illumination RB5000 DL with two daylight bulbs 36 W, 5400 K 58 00 34
Spare bulb 36 W for RB5000 DL 58 00 36

19.5. Stage Micrometers

Stage micrometer reflected light, metal, 1 mm/0,01 mm;100 divisions 70 30 25
Stage micrometer reflected light, metal, 1 mm/0,01 mm; with UKAS certificate 70 30 27
Stage micrometer reflected light, metal, 10 mm/0,1 mm; 100 divisions 70 30 32
Stage micrometer reflected light, metal, 10 mm/0,1 mm; with UKAS certificate 70 30 33
Stage micrometer reflected/transmitted light, metal/glass, 10 mm/0,1 mm; 100 divisions 70 30 28
Stage micrometer reflected/transmitted light, metal/glass, 10 mm/0,1 mm; with UKAS certificate 70 30 31
Stage micrometer reflected/transmitted light, metal/glass, 20 mm/0,1 mm; 200 divisions 70 30 29
Stage micrometer with certificate, metal/glass, 20 mm/0,1 mm; 200 divisions 70 30 30

19.5. Accessories for Microscopy

Levelling press 19 04 00

20. Digital Cameras

20.1. Digital Cameras

USB 2.0 Digital cameras *(for OmniMet 8.x and higher or as stand-alone solution)*

UI-1545LE-M USB 2.0 camera, monochrome, DirectShow (WDM) 58 11 13
1/1.8" CMOS, 1.3 Megapixels (1280 x 1024 pixels), 25 fps @ 1280 x 1024
Mini USB 2.0-cable and drivers for Windows XP / Vista

UI-1545LE-C USB 2.0 camera, color, DirectShow (WDM) 58 11 14
1/1.8" CMOS, 1.3 Megapixels (1280 x 1024 pixels), 25 fps @ 1280 x 1024
Mini USB 2.0-cable and drivers for Windows XP / Vista

UI-1465LE-C USB 2.0 camera, color, DirectShow (WDM) 58 11 25
½" CMOS, 3.1 Megapixels (2048 x 1536 pixels), 10 fps @ 2048 x 1536
Mini USB 2.0-cable and drivers for Windows XP / Vista P

UI-1485LE-C USB 2.0 camera, color, DirectShow (WDM) 58 11 30
½" CMOS, 5 Megapixels (2560 x 1920 pixels), 6 fps @ 2560 x 1920
Mini USB 2.0-cable and drivers for Windows XP / Vista

UI-2220-M USB 2.0 camera, monochrome, DirectShow (WDM) 58 11 11
½" CCD, 768 x 582 pixels, 50 fps @ 768 x 582
Mini USB 2.0-cable and drivers for Windows XP / Vista

UI-2230-M USB 2.0 camera, monochrome, DirectShow (WDM) 58 11 12
½" CCD, 1024 x 768 pixels, 30 fps @ 1024 x 768
Mini USB 2.0-cable and drivers for Windows XP / Vista

UI-2250-M USB 2.0 camera, monochrome, DirectShow (WDM) 58 11 50
½" CCD, 1.9 Megapixels (1600 x 1200 pixels), 12 fps @ 1600 x 1200
Mini USB 2.0-cable and drivers for Windows XP / Vista

20.2. FireWire Digital Cameras *(for OmniMet 5.4 and lower)*

PixeLink A661 FireWire camera, monochrome 86-0250
½" CMOS, 1.3 Megapixel (1280 x 1024 pixels)
12.7 fps @ 1280 x 1024, 90 fps @ 640 x 480
FireWire board, cable and software for Windows 98 / 2000 / XP

PixeLink A662 FireWire camera, color 86-0255
½" CMOS, 1.3 Megapixel (1280 x 1024 pixels)
12.7 fps @ 1280 x 1024, 90 fps @ 640 x 480
FireWire board, cable and software for Windows 98 / 2000 / XP

PixeLink A623C FireWire camera, color 86-0257
½" CMOS, 3.1 Megapixel (2048 x 1536 pixels)
12 fps @ 1280 x 1024, 93 fps @ 640 x 480
FireWire board, cable and software for Windows 98 / 2000 / XP

PixeLink A686C FireWire camera, color 86-0258
1" CMOS, 6.6 Megapixel (2280 x 3000 pixels)
5 fps @ 2208 x 3000, 88 fps @ 640 x 480
FireWire board, cable and software for Windows 98 / 2000 / XP

21. Buehler Microscopes

21.1. Buehler ViewMet, Inverted Laboratory Metallograph

ViewMet 0760-0100
Inverted metallograph
complete with trinocular head and c-mount-adapter 1x
Coaxial XY mechanical stage 180 x 180 mm with two inserts, travel 15 x 15 mm
2x10x WF-ocular (20 mm field of view) and 5x, 10x, 20x, 50x plan achromat objectives
Diffusion filter, geen filter, yellow filter and blue filter
6V/30W Tungsten halogen
Cover
Power supply: built in, 110V/220V selectable

Accessories and spare parts

5x Plan Achromat Objective Lens, N.A. 0,12; AA 18,3 mm 0750-0005
10x Plan Achromat Objective Lens, N.A. 0,25; AA 8,9 mm 0750-0010
20x Plan Achromat Objective Lens, N.A. 0,40; AA 8,7 mm 0750-0020
50x Plan Achromat Objective Lens, N.A. 0,70; AA 2,0 mm 0750-0050
80x Plan Achromat Objective Lens, N.A. 0,80; AA 0,96 mm 0750-0080
100x Plan Achromat Objective Lens, N.A. 0,80; AA 0,96 mm 0750-0110

Micrometer eyepiece recticle, 10 µm/10 mm 0755-0025
Grain size recticle 0755-0030
Eyepiece 10x, diopteradjustable (will be needed together with 0755-0025 or 0755-0030) 0755-0011

Blue filter (conversion) 0755-0165
Green filter 0755-0155
Yellow filter 0755-0160
Diffusion filter 0755-0150

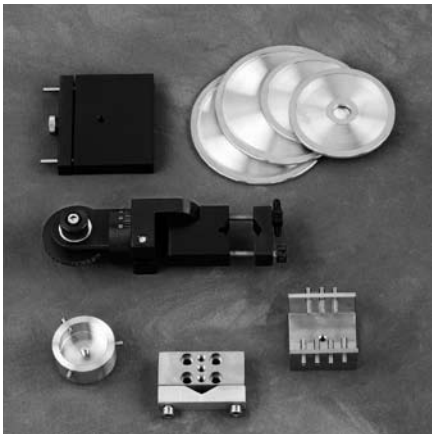
IsoMet
This low speed saw is a precision saw designed for sectioning a wide variety of materials with little to no deformation. Its low kerf loss capability and great versatility in holding all types of sample shapes and configurations give the IsoMet Low Speed Saw the capability to cut virtually any material.

IsoMet 1000
This precision saw offers increased speed, load capability and blade size which enables a wide variety of specimen samples to be sectioned quickly and with low deformation. Blade deactivates at the end of cut. Sample positioning knob adjust samples from left to right.

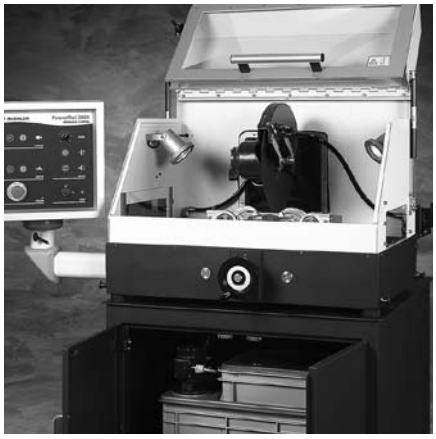
IsoMet 4000 and IsoMet 5000
Linear precision saws designed to automatically adjust the feed rate to provide consistent qualtity cuts. The sample positioning system allows for precise sectioning of delicate specimens with minimal deformation. User selectable feed rates and the SMARTCUT system automatically adjust to give fast precision cuts very time. IsoMet 5000 comes with increased level of automation with the addition of 55 method programmability.

Delta AbrasiMet
Manually operated bench top cutter used for a wide varitey of materials and laboratory applications. It provides the operator to manually control the cutting operation, producing burn free cuts quickly and consistently.

AbrasiMatic 300
Manual and automatic bench top cutter with the choice of sectioning either in an up-down chop direction (Z-axis), longitudinal direction (Y-axis) or serial sectioning direction (X-axis). In automatic mode, Buehler's unique SMARTCUT system automatically reduces feedrate if necessary to produce burn-free consisten cuts.

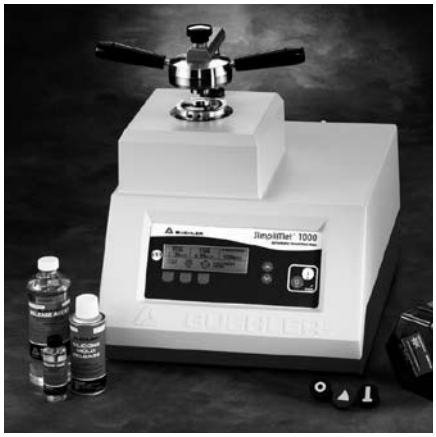


Chucks and Accessories
A wide variety of chucks and accessories are available for the IsoMet Series, designed for virtually any application and specimen clamping requirement.



PowerMet 3000
The PowerMet 3000 abrasive cutter is a robust cutter used for laboratory and production applications. The machine uses a moving bed arrangement. The vertical position of the cutting arm is motorized and set from the control panel. The motor is mounted behind the cutting chamber, thus allowing greater room for positioning of large pieces.

Delta-Series
A family of Orbital and Chop Cutters, modular in design. Orbital cutting technology offers advantages in comparison to the traditional chop cut in that the contact area between abrasive wheel and the sample is kept as small as possible (MACC = Minimal Area of Contact Cutting). This is achieved by the eccentric rotation of the wheel. Thus the wheel continuously changes its position and has only a small point of contact with the sample. All Delta Cutters of the Automatic Chop cut-series are equipped with automatic feed. The SMARTCUT System automatically adjusts the feed rate of the motor and prevents damage to the sample or the equipment.
The Delta Manual Abrasive Cutter is a rugged abrasive cutter that increases productivity using a powerful motor and easy-to-use control panel.



SimpliMet 1000

A cost effective automatic mounting press with electro-hydraulic operation. User selects pressure, temperature, heating time and mounting size for their application.

SimpliMet 3000

A fully automatic mounting press with 25 method programmability, automatic mold sensing and preload operation for sensitive materials. This fully automatic press increases specimen production and specimen consistency.

Mounting Moulds for SimpliMet

Robust, easy-to-change bayonet mould closures are offered in a wide variety of sizes for SimpliMet mounting presses. All mould assemblies include a duplex spacer providingt the capability of producing two specimens during one cure cycle.

Cast'N Vac

This castable vacuum impregnation system removes trapped air from mounting material. It is designed as a single sample vacuum impregnation system. It is easy to operate, compact designed and has a built-in vacuum pump.

Cast'N Vac 1000

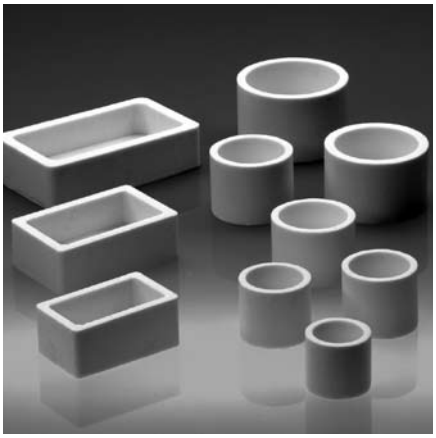
Vacuum impregnation system that evacuates trapped air from castable mounting materials and specimens. With the reduction of trapped air, the castable compound fills the specimen pores, helping to eliminate the gap between specimen and compund. Large chamber allows to impregnate multiple samples.

Pressure Vessel

Acrylic castable mounting compounds can be cured in a pressure vessel thus reducing gap between specimen and compound or achieving higher transparency with special acrylics like VariKleer.

Manual Target Holders

Manual target holders are designed for precise material removal to specified depth. They can be used for round mounted specimens or thin section slides.



Castable Mounting Moulds

Buehler offers a wide variety of mounting moulds for any kind of application.

EcoMet

EcoMet grinder-polishers feature variable platen speed, a continuous duty motor, unique „D" style bowl design, retractable water hose, durable aluminium casting construction, platen cooling, and stain and chip resistant finishing.

EcoMet / AutoMet

The AutoMet power head upgrades the EcoMet grinder polisher from manual operation to semi-automatic operation, incrreasing productivity and specimen consistency. Designed for single and central force application.

EcoMet Pro / AutoMet

The EcoMet Pro offers all features of the EcoMet standard model but has touch-screen control for additional capabilities. Additional base and head combination features includes Zaxis material by dept removal system, programmability, method creation and storage and data transferability via USB port.

MetaServ 250

This grinder-polisher is reliable and economical. Features include variable platen speed, a timer, water control knob, and corrosion resistant molded base.

Vector LC 250

Vector LC 250 power head upgrades the MetaServ 250 to asemi-automatic system, increasing specimen consistency. This affordable unit has basic features and simple to operate controls. Mechanical single pressure application allows the preparation of one to four specimens at a time.

PriMet

Modular dispensing system for dispensing polishing suspensions using peristaltic pumps, no dripping, no mist technology. Available as stand-alone PriMet Satellites or PriMet 3000 dispensing station with two bottles and the possibility to connect up to 10 satellites.

MiniMet 1000

Semi-automatic grinder-polisher designed for low volume laboratories preparing single specimens. Its space saving design empolys a patented geometric action that combines the advantages of hand-lapping as well as mechanical polishing.

VibroMet 2

Vibratory polisher designed to prepare high quality polished surfaces on a variety of materials and applications, including EBSD polishing preparation applications. The horizontal motion of 7200 cycles per minute proiduces a very effective polishing action with superior quality results and exceptional flatness.

BuehlerVanguard 2000

Microprocessor controlled fully automatic preparation system. This table-top system combines the function of a semi-automatic grinder-polisher, a dispensing system, an ultrasonic cleaner and a specimen dryer into one compact affordable system.

MicroMet 5100 Series

A series of micro indentation hardness testers with digital or analogue eyepiece and digital or analogue micrometers.

MacroVickers 5100 Series

A series of semi-macro and macro Vickers hardness testers with digital eyepiece.

IndentaMet Série

A cost efficient series of micro indentation and semi-macro and macro Vickers hardness testers.

MacroMet 5100 Serie

A series of dead weight Rockwell type hardness testers for all Rockwell scales. Testers have digital control and hardness readout via easy-to-read LED display panel. Automated control of dead weight test load application and test cycle ensures accuracy and repeatability.

MacroMet 5121

Digital Rockwell type hardness tester with closed loop control. Closed loop control technology and an electronic brake ensures precise minor load application for all Rockwell/Supericial Rockwell scales.

OmniMet MHT

Manual, semi- and fully automatic hardness testing systems are supplied in three configurations. The OmniMet MHT increases productivity and improves reliability through automation of the hardness testing process.

ViewMet

Inverted laboratory metallograph. Entry level microscope, ready-to-use with 5x, 10x, 20x and 50x plan achromat objectives.

OmniMet Imaging Solutions

OmniMet modular imaging system & software solutions are a flexible line of digital imaging systems. Different levels of software meet all needs for image and document archiving in a modern laboratory. Measuring solutions from basic measurements to advanced image analysis applications are provided.

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